



SIERRA LEONE

Annual Report

OF THE

Medical and Sanitary Department

For the Year 1934.

*Price 2s. 6d.*

1935

Printed by the GOVERNMENT PRINTER, Freetown.



## ERRATA.

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Page 15.—*Infantile and Child Mortality*. Insert % after 67.9 in line 6.

„ 26.—Table of Minor Operations necessary. For “urethral structure,” read “urethral stricture.”

„ 32.—Comparative Table of Larvæ Found. The following are the correct figures under:—

Anopheles	...	...	Hill Station	1934	1
Culex	...	...	„	„	15
Stegomyia	...	...	„	1933	410
Culex and Stegomyia	...		Freetown	„	13
Stegomyia and Anopheles			Hill Station	„	1
			Total for Freetown, in 1933	...	271

„ 33.—Under *Dysentery*, line 5—read “improvement” for improvemnt.

„ 35.—*Refuse Disposal* (Freetown), line 7—read “decrepit” for “descrepit.”

„ 36.—Last paragraph before “Water Supplies”—in the 8th line, read “Sierra Leone Selection Trust” for “Consolidated African Selection Trust.”

„ 37.—*Question of increasing the Water Supply, etc.*—insert full stop after Honourable Director of Public Works and read “Brown” for “Browne” in the 3rd line.

„ 38.—In line 9, read “cannot be considered” for “can be considered.”

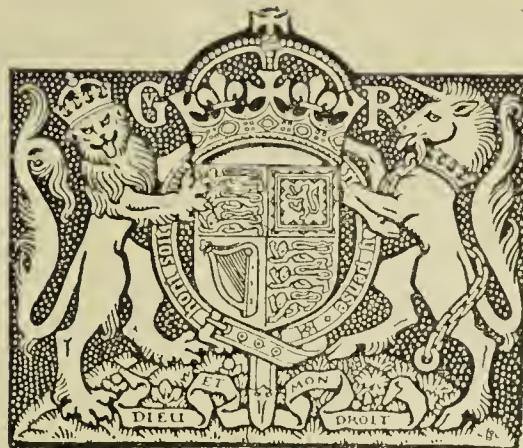
„ „ Labour Conditions—delete “generally” in line 3 and “mostly” before “in Freetown,” in the 11th line.

„ 42.—Table II. Under *Blood Counts*, total examination is 164 and not 264.

„ 71.—*F—EYE CLINIC (b) Affections of Conjunctiva*—read “Phlyctenular Conjunctivitis for “Phlyctenular Conjuntivitis.”

7th October, 1935.





**SIERRA LEONE**

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# **Annual Report**

OF THE

## **Medical and Sanitary Department**

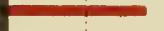
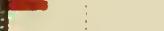
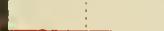
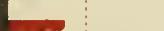
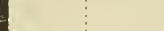
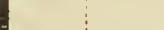
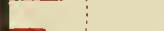
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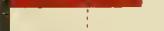
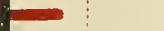
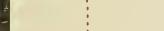
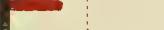
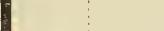
% 10 20 30 40 50 60 70 80 90 100

**THE PROPORTION OF EPIDEMIC,  
ENDEMIC, INFECTIOUS, SYS-  
TEMIC AND OTHER DISEASES  
SHOWN AS PERCENTAGES OF  
TOTAL CASES TREATED.**

**Total Hospital Cases 101,598.**

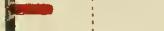
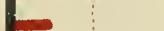
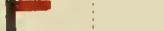
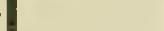
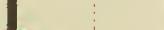
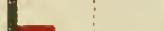
Epidemic, endemic and infectious diseases	...	...	...	18.42	
General diseases not mentioned above	...	...	...	9.81	
Affections of the nervous system				3.51	
Affections of the circulatory system	...	...	...	1.28	
Affections of the respiratory system	..	...	...	12.29	
Affections of the digestive system				26.19	
Diseases of the genito-urinary system and puerperal state				4.32	
Affections of the skin and cellular tissues and diseases of the bones				15.53	
Affections produced by external causes	...	...	...	6.66	
Other diseases	...	...	...	1.93	

**Total Hospital Deaths 334.**

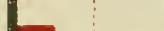
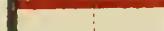
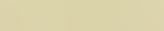
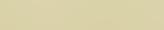
Epidemic, endemic and infectious diseases	...	...	...	18.56	
General diseases not mentioned above	...	...	...	5.38	
Affections of the nervous system				9.28	
Affections of the circulatory system	...	...	...	7.48	
Affections of the respiratory system	...	...	...	11.67	
Affections of the digestive system				14.97	
Diseases of the genito-urinary system and puerperal state				16.16	
Affections of the skin and cellular tissues and diseases of the bones				8.38	
Affections produced by external causes	...	...	...	5.38	
Other diseases	...	...	...	2.69	

**THE PROPORTION OF EPIDEMIC,  
ENDEMIC AND INFECTIOUS  
DISEASES.**

**Total Hospital Cases 18,721.**

Malaria	...	...	...	33.10	
Smallpox	...	...	...	2.91	
Yaws	...	...	..	39.32	
Leprosy	...	...	...	1.13	
Tuberculosis	...	...	...	1.37	
Dysentery	...	...	...	2.25	
Syphilis and soft chancre			...	3.82	
Gonorrhœa	...	...	...	11.93	
Other infectious diseases			...	4.11	

**Total Hospital Deaths 62.**

Malaria	...	...	...	3.22	
Smallpox	...	...	...	14.51	
Yaws	...	...	...	1.61	
Leprosy	...	...	...	1.61	
Tuberculosis	...	...	...	41.96	
Dysentery	...	...	...	9.67	
Other infectious diseases			...	27.41	

A faint, out-of-focus background image of a library shelf filled with books, creating a scholarly atmosphere.

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MEDICAL AND SANITARY DEPARTMENT,  
FREETOWN, SIERRA LEONE,

17th April, 1935.

ANNUAL MEDICAL AND SANITARY REPORT,  
1934.

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SIR,

I have the honour to submit, for the information of His Excellency the Governor and for transmission to the Right Honourable the Secretary of State for the Colonies, the Medical Report on the Health and Sanitary conditions of Sierra Leone for the year 1934, together with the Returns, etc., appended thereto.

I have the honour to be,

SIR,

Your obedient servant,

PHILIP D. OAKLEY,  
*Director of Medical and Sanitary Services.*

THE HONOURABLE

THE COLONIAL SECRETARY,  
FREETOWN.



# Annual Report of the Medical and Sanitary Department for the Year 1934.

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## I—Administration.

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### (a) ESTABLISHMENT, INCLUDING VACANCIES, ACTING APPOINTMENTS AND PROMOTIONS.

---

#### MEDICAL AND SANITARY STAFF.

1 Director of Medical and Sanitary Services  
1 Assistant Director of Health Service  
1 Surgical Specialist  
1 Senior Health Officer  
1 Medical Officer of Health  
2 Senior Medical Officers  
10 Medical Officers of the West African Medical Staff  
1 Senior African Medical Officer  
1 African Pathologist  
5 African Medical Officers  
1 Chief Sanitary Superintendent  
2 Sanitary Superintendents.

#### EUROPEAN NURSING STAFF.

2 Senior Nursing Sisters  
5 Nursing Sisters

#### SUBORDINATE MEDICAL AND SANITARY STAFF.

1 Chief Dispenser  
1 Assistant Chief Dispenser  
1 Hospital Warden  
1 Chief Store-keeper  
10 First Class Dispensers  
10 Second Class Dispensers  
18 Third Class Dispensers  
33 Male Nurses and Apprentices  
25 Female Nurses and Probationers  
2 Midwives  
3 Health Visitors  
1 School Nurse  
36 Sanitary Inspectors and Learners  
1 Head Attendant, Lunatic Asylum  
1 Assistant Head Attendant, Lunatic Asylum  
1 Matron, Lunatic Asylum  
3 Female Attendants, Lunatic Asylum  
10 Male Attendants, Lunatic Asylum  
1 Laboratory Assistant.

There are, in addition to above, cooks, stokers, gate-keepers, watchmen, labourers, hospital porters, carpenter, motor-ambulance driver, etc.

#### CLERICAL STAFF.

There are 16 clerks—1 Chief Clerk, 1 second grade, 8 senior third grade, 6 junior third grade.

## PRINCIPAL ACTING APPOINTMENTS.

Dr. A. B. Monks acted as Assistant Director of Health Service from 8th March to 31st August.

Dr. W. Allan acted as Medical Officer of Health from 1st January to 10th July, and 8th to 31st December.

Dr. A. B. Monks acted as Medical Officer of Health from 11th July to 7th December.

## PROMOTION.

Miss G. M. Spence, Nursing Sister, Gold Coast, promoted Senior Nursing Sister on 27th July.

## TRANSFER.

Miss M. G. Morgan, Nursing Sister, transferred to Nigeria on 1st September.

## RESIGNATION.

Dr. A. C. Dalzell, Medical Officer, West African Medical Staff, resigned 27th October.

## RETIREMENT.

Miss I. A. Marr, Senior Nursing Sister, retired on 27th July.

It is with regret that the deaths of Mr. Mendi Kagbo, Sanitary Learner, on the 25th July, and P. G. Buck, Second Class Dispenser, on the 2nd November, are announced.

(b) LIST OF ORDINANCES, ETC., AFFECTING PUBLIC HEALTH AND ENACTED DURING THE YEAR.

## ORDINANCES.

Undesirable Advertisements Ordinance (No. 5 of 1934).

Medical Practitioners, Dentists and Druggists (Amendment) Ordinance (No. 9 of 1934).

Public Health (Amendment) Ordinance (No. 21 of 1934).

## ORDERS IN COUNCIL.

Public Health (Infectious Diseases) Order in Council (No. 3 of 1934).

Public Health Areas (Amendment) Order in Council (No. 18 of 1934).

Freetown Cattle Market Order in Council (No. 19 of 1934).

## ... RULES.

Animal Diseases (Control of Dogs) Rules (No. 7 of 1934).

Animal Diseases (Control of Dogs) Rules (No. 9 of 1934).

Animal Diseases (Control of Dogs) Rules (No. 12 of 1934).

Births and Deaths Registration (Fees) Rules (No. 22 of 1934).

Midwives Rules (No. 24 of 1934).

## PROCLAMATION.

Prevention of Hydrophobia Proclamation (No. 1 of 1934).

## MAGISTRATE'S ORDER.

Dogs (Prevention of Hydrophobia (Rabies), Order (No. 1 of 1934).

Dogs (Prevention of Hydrophobia (Rabies), (Revocation) Order (No. 2 of 1934).

## (c) FINANCIAL.

The following table gives the revenue and expenditure for the year 1933 and 1934.

	Medical Revenue.			1933.			1934.		
	£	s.	d.	£	s.	d.	£	s.	d.
Hospital receipts	...	...	...	822	1	0	779	5	6
Sundry receipts (out-patients' fees, etc.)	...	...	...	812	14	11	867	7	3
Druggist fees (registration)	...	...	...	—			0	10	0
Maintenance of lunatics	...	...	...	188	16	8	188	2	6
Departmental fines	...	...	...	7	9	6	5	9	0
	Total	...	...	£1,831	2	1	£1,840	14	3
<hr/>									
Medical Expenditure.			1933.			1934.			
£	s.	d.	£	s.	d.	£	s.	d.	
Personal Emoluments	...	...	...	36,934	0	1	36,019	19	4
Other Charges	...	...	...	12,230	14	2	12,237	7	2
	Total	...	...	£49,164	14	3	£48,257	6	6
<hr/>									
Sanitary Revenue.			1933.			1934.			
£	s.	d.	£	s.	d.	£	s.	d.	
Sanitary Services	...	...	...	1	10	11	3	4	7
Maintenance of persons in quarantine	...	...	...	—			—		
	Total	...	...	£1	10	11	£3	4	7
<hr/>									
Sanitary Expenditure.			1933.			1934.			
£	s.	d.	£	s.	d.	£	s.	d.	
Personal Emoluments	...	...	...	9,321	17	1	9,214	16	6
Other Charges	...	...	...	8,759	13	3	8,270	4	3
	Total	...	...	£18,081	10	4	£17,485	0	9
<hr/>									

Ratios of combined Medical and Sanitary votes to total estimated revenue for the past five years:—

Year.	£	
1930	97,975	1 : 7.86
1931	86,708	1 : 9.08
1932	75,407	1 : 10.80
1933	73,092	1 : 10.67
1934	69,875	1 : 9.56

## ANALYSIS OF HOSPITAL EXPENDITURE FOR THE YEAR 1934.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Institution.	Daily Average Number of Patients.	Total Number of Patients.	Daily Average Number of Patients.	Provisions from Store-keeper.	Fresh Provisions.	Wines, Spirits, Minerals, Tobacco, Ice.	Miscellaneous Cleaning Materials, Hospital Equipment, Replacements.	Total of 5, 6, 8, 11 and 12 per Patient per Day.	7 and 9 per Patient per Day.	Fuel, Light.	Total of 5, 6, 8, 11 and 12 per Patient per Day.	5, 6, 8, 11 and 12 per Patient per Day.	Total Sum Recoverable from Paying Patients.	
Nursing Home ...	99	42	1,559	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
Connaught Hospital ...	2,464	93	33,945	113 13 6	264 10 2	0 4 10	19 13 6	0 0 3	0 5 1	40 12 5	10 1 9	448 11 4	0 5 9	
Lunatic Asylum ...	1,020	8445	30,826	331 11 8	836 9 7	0 0 84	10 14 4	—	—	75 15 10	47 8 2	1,301 19 7	0 0 9	
Kissy Infirmarys ...	1,043	8726	31,853	63 1 54	547 6 114	0 0 43	39 19 9	—	—	17 2 10	3 0 0	670 10 112	0 0 5	
Bonthe Hospital ...	425	2587	9,446	3 0 0	73 10 8	0 0 134	2 12 9	—	—	17 15 1	3 0 0	629 10 84	0 0 42	
										14 18 8	—	—	94 2 1	
										7 4	7	7	6	

## II—Public Health.

### (a) GENERAL REMARKS.

#### (i) GENERAL DISEASES.

In spite of the further increase in the number of patients treated at the various hospitals during the year, the general health throughout the Colony and Protectorate has, taken everything into consideration, been satisfactory. It is not considered that the increase in the number of cases treated is due to the continued low standard of living but from an increased desire to receive hospital treatment on the part of the people themselves. It is worthy of note that there have been six cases of acute appendicitis in Europeans five of which required immediate operation. There were fewer cases of malaria and fewer cases of yaws treated, but there was a marked increase in the number of cases of chronic rheumatism. This is attributed to more careful diagnosis. All cases of sub-acute rheumatism, which in the past have been shown under the heading "Acute Rheumatism," are now shown under Chronic Rheumatism, and only those cases actually diagnosed as acute rheumatism, or rheumatic fever, are shown under the appropriate heading. There has been an increase in avitaminosis, which again can be attributed to more people seeking relief from their ailments, and there has been a slight but welcome decrease in venereal disease.

The rainfall for Freetown was the heaviest since 1903 but, in spite of this very heavy rainfall, malaria has shown a marked decrease. This fact is probably due to the canalization of the various streams around Freetown which has been continued throughout the period under review. The outbreak of smallpox referred to in the last annual report is now showing a marked decrease owing to the effects of vaccination making itself felt.

*European Officials.*—The health of the European officials has been good in spite of the fact that the percentage of invaliding is the highest for seven years. Of the nine officials invalidated, only one is directly attributable to tropical diseases. There were no deaths during the year.

TABLE I.  
HEALTH OF EUROPEAN OFFICIALS.

Table showing Sick, Invaliding and Death-rates of European Officials.

			1932.	1933.	1934.
Total number of officials resident	...	...	240	218	208
Average number resident	...	...	176	155	144
Total number on sick list	...	...	114	136	143
Total number of days on sick list	...	...	1,235	1,564	1,231
Average daily number on sick list	...	...	3.37	4.28	3.37
Percentage of daily sick to average number resident	...	...	1.91	2.76	2.34
Average number of days on sick list to each patient	...	...	10.83	11.5	8.60
Average sick time to each resident	...	...	7.01	10.09	8.54
Total number invalidated	...	...	6	7	9
Percentage of invalidings to total residents	...	...	2.5	3.21	4.32
Percentage of invalidings to average resident	...	...	3.40	4.51	6.25
Total number of deaths	...	...	—	1	—
Percentage of deaths to total residents	...	...	—	.45	—
Percentage of deaths to average number resident	...	...	—	.64	—

Causes of Invalidings and Deaths of European Officials.

Causes.	Invalided.	Died.
Appendicitis	1	—
Corneal ulcer	1	—
Epilepsy	1	—
Injury to tendons of wrist and ulnar nerve	1	—
Malarial debility	1	—
Multiple peripheral neuritis	1	—
Peronychia	1	—
Renal calculi	1	—
Toxic amblyopia	1	—
Total	9	—

The invaliding rate of European officials for the past ten years is shown below.

YEAR.	Average Number Resident.	Total Number of Invalidings.	Percentage of Invalidings to Average Resident.
1925 ... ...	180	5	2.77
1926 ... ...	184	6	3.26
1927 ... ...	250	16	6.40
1928 ... ...	280	9	3.21
1929 ... ...	251	11	4.38
1930 ... ...	260	3	1.15
1931 ... ...	177	8	4.51
1932 ... ...	176	6	3.40
1933 ... ...	153	7	4.51
1934 ... ...	144	9	6.25

*European Non-officials.*—The health of the non-officials has not reached the standard of the European officials and, although there were no deaths, the invaliding rate is very much higher than the previous year. Of the 13 non-officials who were invalidated, only 2 are directly attributable to tropical diseases.

TABLE II.

HEALTH OF EUROPEAN NON-OFFICIALS.

Table showing Sick, Invaliding and Death-rates of European Non-officials.

	1932.	1933.	1934.
Total number of non-officials resident ... ... ...	434	400	442
Average number resident ... ... ...	292	285	306
Total number on sick list ... ... ...	63	45	87
Percentage of sick to average number resident ... ...	21.57	15.78	28.43
Average number of days on sick list to each patient ...	—	—	—
Average sick time to each resident ... ...	—	—	—
Total number invalidated ... ... ...	11	7	13
Percentage of invalidings to total residents ... ...	2.53	1.75	2.94
Percentage of invalidings to average number resident ...	3.76	2.45	4.24
Total deaths ... ... ...	6	3	—
Percentage of deaths to total residents ... ...	1.38	.75	—
Percentage of deaths to average number resident ...	2.05	1.05	—

*Causes of Invalidings and Deaths of European Non-officials.*

Causes.	Invalided.	Died.
Abscess of lungs	1	—
Anæmia	1	—
Cancer	1	—
Conjunctivitis	1	—
Dysentery amoebic	1	—
Renal calculus	1	—
Malaria	1	—
Nervous breakdown	1	—
Neurasthenia and anæmia	1	—
Paralysis	1	—
Pneumonia	1	—
Synovitis	1	—
Typhoid	1	—
Total ...	13	—

*African Officials.*—There is a decrease of 30, as shown in the number of officials resident and in proportion there is an increase in the total number of days on the sick list and a slight increase in the average daily number on the sick list. There was a decrease in the number invalidated but an increase of three deaths over the previous year. The percentage of deaths to total residents and the average number resident is greater than the two preceding years. The health of the African officials cannot therefore be considered as satisfactory as in the previous year.

TABLE III.  
HEALTH OF AFRICAN OFFICIALS.

Table showing Sick, Invaliding and Death-rates of African Officials.

	1932.	1933.	1934.
Total number of officials resident	900	960	930
Average number resident	880	950	920
Total number on sick list	680	861	530
Total number of days on sick list	5,464	6,347	6,536
Average daily number on sick list	14.92	17.38	17.90
Percentage of daily sick to average number resident	1.69	1.82	1.94
Average number of days on sick list to each patient	8.03	7.37	12.33
Average sick time to each resident	6.20	6.68	7.10
Total number invalidated	4	10	7
Percentage of invalidings to total residents	.44	1.04	.75
Percentage of invalidings to average number resident	.45	1.05	.76
Total deaths	5	4	7
Percentage of deaths to total residents	.55	.41	.75
Percentage of deaths to average number resident	.56	.42	.76

*Causes of Invalidings and Deaths of African Officials.*

Causes.	Invalided.	Died.
Amnesia	2	—
Bronchitis	—	1
Cellulitis	—	1
Delusion	1	—
Elephantiasis	1	—
Gunshot wound	—	1
Malaria	—	1
Nervous disorder	1	—
Osteitis of tarsal bones	1	—
Pneumonia and pleurisy	—	1
Pneumonia	—	1
Premature senility	1	—
Tuberculosis	—	1
Total	7	7

TABLE SHOWING THE COMPARATIVE FIGURES OF THE HEALTH OF AFRICAN OFFICIALS FOR THE LAST TEN YEARS.

Year.	Average Number of Officials.	Number on Sick List.	Number of Days off Duty through Sickness.	Average Sick Time to each Official.	Number Invalided.	Percentage of Invalidings to Average Number.	Total Deaths.	Percentage of Deaths to Average Number.
1925	997	1,121	8,735	8.76	18	1.80	10	1.00
1926	1,000	950	5,375	5.37	6	0.60	4	0.40
1927	1,000	933	7,919	7.91	20	2.00	4	0.40
1928	1,050	967	6,415	6.10	25	2.38	9	0.85
1929	969	1,057	7,486	7.72	8	0.83	6	0.61
1930	970	1,048	9,052	9.32	12	1.23	8	0.92
1931	884	959	7,863	8.5	11	1.24	7	0.79
1932	880	680	5,464	6.20	4	0.45	5	0.56
1933	950	861	6,347	6.68	10	1.05	4	0.42
1934	920	530	6,536	7.10	7	0.75	5	0.75

TABLE IV.  
AFRICAN TROOPS.

From the figures shown below the health of the African Troops cannot be considered so satisfactory as the previous year. The average strength of the Battalion was increased by 9. The total number of men on the sick list was increased by 81 and the sick rate, per 1,000, by 186. The increase in the sick rate amongst the troops is attributable to the greater number of men suffering from ulcers which has increased by 100 during the year under review.

HEALTH OF AFRICAN TROOPS.  
*Royal West African Frontier Force (Non-European).*

Average Strength of Battalion in 1934.	Total Number of Deaths.	Death-rate per 1,000.	Total Number of Men on Sick List.	Sick Rate per 1,000.
383	1	2.61	484	1,263

TABLE V.  
HEALTH OF AFRICAN POLICE.

The strength of the Force has remained the same since 1933. There were two deaths, giving a death-rate per 1,000 of 7.54. The total number of men on the sick list shows a decrease of 111 and the rate per 1,000 is decreased by 419. The health of the African police can therefore be considered as satisfactory.

Total Number of Men.	Total Number of Deaths.	Death-rate per 1,000.	Total Number of Men on Sick List.	Sick Rate per 1,000.
265	2	7.54	202	762

TABLE VI.  
HEALTH OF PRISONERS AND MENTAL PATIENTS.

A special report on these is found in Section VII in Tables IV and V.

TABLE VII.  
INSTITUTIONAL TREATMENT.

Whilst there has been a slight decrease in the number of in-patients treated in the Protectorate, there has been a considerable increase in in-patients treated in the Colony. The out-patients have increased by 3,958 and there is a very marked increase in the number of subsequent attendances. There is again an increase in the total number of deaths recorded, which is due to the stricter control of the registration of births and deaths. Registration is not compulsory and therefore these figures can only be approximate.

			1932.	1933.	1934.
IN-PATIENTS :					
European	Colony ...	...	96	114	103
Protectorate	...	...	1	9	—
African	Colony ...	...	3,151	2,964	3,500
Protectorate	...	...	2,112	2,176	1,676
OUT-PATIENTS :					
European	Colony ...	...	641	313	350
Protectorate	...	...	155	95	115
African	Colony ...	...	35,734	38,524	48,436
Protectorate	...	...	46,497	53,445	47,418
	Total	...	88,387	97,640	101,598
DEATHS :					
European	Colony ...	...	—	3	—
Protectorate	...	...	1	1	—
African	Colony ...	...	213	212	256
Protectorate	...	...	70	86	78
	Total	...	284	302	334
Percentage of deaths to total number treated	...		32	30	32
Showing decrease or increase of total number of patients treated	...	...	-6,372	+9,253	+3,958
Subsequent attendances	...	...	263,569	254,796	339,485

The following table gives the numbers of diseases for which patients attended the various hospitals and dispensaries. Comparing the figures for 1934 with those for 1933, it will be noticed that there is a decrease in the number of malaria and of yaws treated, but there is a further increase in the number of cases of avitaminosis. It is satisfactory to note that there is a decrease in venereal diseases. The large increase in the number of cases of chronic rheumatism has already been explained in a previous paragraph.

							1933.	1934.
Malaria	...	...	...	...	...	...	6,548	6,197
Yaws	...	...	...	...	...	...	7,655	7,362
Acute rheumatism	...	...	...	...	...	...	620	4
Chronic rheumatism	...	...	...	...	...	...	5,157	7,559
Hemiplegia	...	...	...	...	...	...	119	123
Conjunctivitis	...	...	...	...	...	...	807	841
Affections of the ear	...	...	...	...	...	...	852	924
Hæmorrhoids	...	...	...	...	...	...	100	83
Lymphadenitis (bubo non-specific)	...	...	...	...	...	...	596	621
Coryza	...	...	...	...	...	...	873	1,031
Acute bronchitis	...	...	...	...	...	...	5,981	6,106
Chronic bronchitis	...	...	...	...	...	...	3,109	3,994
Asthma	...	...	...	...	...	...	159	198
Caries, pyorrhœa, etc.	...	...	...	...	...	...	1,423	1,539
Gastritis	...	...	...	...	...	...	299	563
Dyspepsia	...	...	...	...	...	...	3,859	4,350
Diarrhoea and enteritis	...	...	...	...	...	...	1,262	1,286
Ankylostomiasis	...	...	...	...	...	...	131	209
Hernia	...	...	...	...	...	...	713	946
Constipation	...	...	...	...	...	...	8,725	9,748
Acute nephritis	...	...	...	...	...	...	94	47
Schistosomiasis	...	...	...	...	...	...	71	89
Epididymitis	...	...	...	...	...	...	61	28
Orethritis	...	...	...	...	...	...	199	263
Hydrocele	...	...	...	...	...	...	233	325
Abscess	...	...	...	...	...	...	612	529
Scabies	...	...	...	...	...	...	1,210	961
Eczema	...	...	...	...	...	...	337	329
Osteitis	...	...	...	...	...	...	1,432	334
Arthritis	...	...	...	...	...	...	1,802	1,481
Wounds (by cutting or stabbing instruments)						...	1,260	857
Fracture	...	...	...	...	...	...	303	274
Other external injuries	...	...	...	...	...	...	2,850	3,756
Asthenia	...	...	...	...	...	...	752	845
Syphilis	...	...	...	...	...	...	616	476
Gonorrhœa	...	...	...	...	...	...	2,236	2,234
Avitaminosis	...	...	...	...	...	...	327	455

### (ii) COMMUNICABLE DISEASES.

*Malaria.*—Preventive measures against malaria are detailed in Section IV.—Hygiene and Sanitation. 102 Europeans were treated during the year, which is an increase of 16 over the previous year. The greater number of these cases were treated in the Protectorate. There were no deaths.

The following table shows the relative position of malaria as a cause of lost time in Europeans during the last five years, and it will be noted that there is a marked increase during the year under review:—

Year.	Average Number Resident.	Total Sick Days.	Total Days spent on Sick List for Malaria.	Total Days spent on Sick List for other Causes.	Percentage of Malaria Days to Total Days.	Number of Days lost through Malaria for year per 100 Residents
1930	260	1,785	526	1,259	29.46	202
1931	177	1,463	258	1,205	17.63	145
1932	176	1,235	370	865	29.95	210
1933	153	1,564	372	1,192	23.78	243
1934	144	1,231	595	636	48.33	413

*In Africans.*—The figures for 1934 show a welcome decrease over those of the previous year. In 1933 there were 6,462 cases with 6 deaths, and in 1934 6,095 and 2 deaths. The incidence of blackwater fever also shows a welcome decrease. In 1933 there were 6 cases with 1 death, and in 1934 2 cases and no deaths. This decrease can be attributed to the canalization of the steams of Freetown, which is having a marked effect on mosquito breeding. There is again a small increase in the numbers of quartan malaria, but a very marked decrease as regards tertian malaria.

The following table gives the figures for the past three years.

Diseases.	1932.	1933.	1934.
Malaria—tertian	...	66	513
Malaria—quartan	...	34	106
Aestivo-autumnal	...	1,036	1,563
Unclassified	...	3,680	4,321
Cachexia	...	41	37
Blackwater	...	2	8
Total cases of malaria (all types)	...	4,859	6,548
			6,197

*Typhoid.*—There were 6 cases of typhoid fever, 2 of which occurred in Europeans. Of the 4 cases occurring amongst Africans there was 1 death. This is a slight increase over the previous year.

*Blackwater.*—There have been 2 cases and no deaths in 1934, 1 case being in an European and 1 in an African.

*Trypanosomiasis.*—Four cases have been reported during the year from various parts of the Protectorate.

*Smallpox.*—The epidemic of smallpox which commenced in 1932 now shows signs of abating owing to the effects of vaccination. Full details will be found in Section IV, Sub-section B.

*Dysentery.*—There has been a slight decrease in the incidence of dysentery during the year. 5 cases with no deaths occurred amongst Europeans and 418 with 6 deaths occurred amongst the African population.

*Tuberculosis.*—One European case has been reported and amongst the African there were 259 cases with 26 deaths, and these figures approximate closely with those of previous years, but they must be taken with considerable reserve.

*Leprosy.*—There is a slight increase in the number of cases reported, namely, 212 as against 206 in the previous year.

A leprosy survey has been commenced and reliable figures should be available early in 1935. Until those figures are available it would be unwise to make any further statements as to the incidence of the disease, but it is known to be spreading in the Colony and the Protectorate.

*Guinea Worm.*—No cases of guinea worm have been reported during the year, a fact which bears out the statement which was made in the report for 1933.

*Yaws.*—There has been a decrease of nearly 300 cases, but the number of patients who present themselves for further treatment has increased considerably.

*Venereal Diseases.*—There has been a slight but welcome decrease in these diseases for the year under review, the greater decrease being amongst the syphilitic group.

Diseases.	1930.	1931.	1932.	1933.	1934.
Gonorrhœa	...	2,581	2,366	2,114	2,236
Syphilis	...	605	592	388	616
Total	...	3,186	2,958	2,502	2,852
					2,710

*Beriberi.*—No cases of this disease have been reported during the year.

*Avitaminosis.*—There is again an increase in the number of cases of this disease which is due, in most cases, to a badly proportioned diet. Many cases have been brought to light at the Ophthalmic Clinic which has been inaugurated during the year.

*Rabies.*—There was 1 case of human rabies in a young African girl which terminated fatally. Fortunately a supply of anti-rabic vaccine was available, and all cases of people who had been bitten by dogs were placed under treatment immediately. There were 2 outbreaks of rabies during the year. In September, owing to the occurrence of the second outbreak, it was considered advisable to introduce a Muzzling Order. The response to this Order was satisfactory and no further cases were reported during the remainder of the year. Altogether some 84 people received anti-rabic treatment.

*Yellow Fever.*—There were no cases of yellow fever. During the year, owing to the outbreak of yellow fever at Bathurst, Gambia, special precautions were taken to prevent the introduction of the disease to the Port of Freetown. In this respect a mass attack has been made on old trees which had many holes in them and were a danger to the community. 4,058 trees were felled during the year and 4,247 trees either filled or drained. This measure, combined with stricter supervision of sanitary inspection, had the desired effect of reducing the larval index to a very low level. The benefit accruing from the eradication of dangerous trees is well illustrated at Hill Station where the number of cases of larvae found in trees has been reduced from 482 in 1933 to 90 in 1934.

*Cancer.*—The number of patients suffering from malignant disease has increased from 22 in 1933 to 41 in 1934. It would appear as if the incidence of malignant disease amongst the African population was increasing and special measures are being taken to ascertain the various types affecting the community.

### (b) VITAL STATISTICS.

#### GENERAL POPULATION.

#### REPORT OF THE CHIEF REGISTRAR OF BIRTHS AND DEATHS.

#### GENERAL.

Though in previous years the administrative and executive staff of births and deaths registration has been enumerated, for the sake of regularity the staff and distribution are again given, and show clearly any change in the machinery.

The present staff consists of:—

The Chief Registrar—stationed in Freetown

The Deputy Chief Registrar—stationed in Freetown

The Chief Registrar's clerk—stationed in Freetown.

Registrars stationed at—

Deputy Registrars stationed at—

Colony.	Protectorate.
Freetown	Pujehun
Cline Town	Shebar
Regent	Moyamba
Wilberforce	Bo
Kissy	Daru
Tassoh Island	Kabala
Murray Town	Makeni
Wellington	Port Loko
Hastings	Zimi
Hamilton	Panguma
Kent	Kono
Waterloo	
Tombo	
York	
Songo Town	
Bananas Island	
Sherbro Judicial District	
	Pujehun, Sulima, Sumbuya, Shebar, Moyamba, Sembe- hun, B a u y a , Mabang, Mano, Bo, K e n e m a , Daru, Pendembu, Kailahun, Kabala, M a k e n i , Port Loko, Batkanu, Kambia.

The appointment of Chief Registrar is held ex-officio by the Assistant Director of Health Service, and that of Deputy Chief Registrar by the M.O.H., ex-officio. Registrars, 25 in number, are appointed by the Governor and are chosen from the medical officers or from educated citizens in non-medical stations. Deputy Registrars posts, 19 in number, are filled by dispensers.

There are in all, four systems of registrations in force; they vary in the extent of their compulsion. They are designed to cover the different conditions existing in the Colony and the Protectorate, and thus they are appropriately applied in those areas where experience has shown that an individual system is suitable.

Registration of births and deaths is compulsory in respect of anyone born or dying in the Colony. Registration of births and deaths in the Protectorate follows three systems:—

- (a) It is compulsory in the case of all non-natives born or dying in the Protectorate. The term non-natives is meant to cover Europeans, Asiatics, etc., and Colony-born Africans.
- (b) It may be made compulsory in any chiefdom or part of a chiefdom, in respect of all natives born or dying in such chiefdom or part of a chiefdom, but only when request to Government has been made by the Paramount Chief concerned.
- (c) Notwithstanding the above provisions, any native in the Protectorate may, if he so wishes, give information of a person born or dying in the Protectorate, i.e. Permissive Registration.

The present organization is designed to cover the majority of the Colony, but the figures obtained can be considered approximately accurate only in the case of Freetown, where the rigid control of cemeteries results in the detection of all deceased persons, other than those who are removed from the city just prior to death or immediately after death, and where the daily efforts of the Sanitary staff in its routine inspection of houses results in the detection of the majority of live-births, though it is still probable that a good many still-births are not disclosed.

In the remainder of the Colony such rigid control is not at present obtainable; the figures thus depend on the keenness and energy of the Registrar, and in the absence of a willingness on the part of the general populace, can be considered only as representing but a portion of the births and deaths actually occurring.

In the Protectorate registration is merely in its beginning, and only time and patient education will enable Government to extend the sphere of the Ordinance. In 1934 only 4 per 1,000 of the population were covered by the existing machinery, though recent requests received from chiefs will extend this figure to 7 per 1,000. The figures obtained from such a small proportion of the populace can in no way express the conditions in the Protectorate, while the gross figures registered merely records a greater or lesser willingness to inform registrars of births and deaths which have occurred.

#### POPULATION.

The 1931 Census gave the following figures.

*Comparative Populations of Freetown, Colony and Protectorate 1931.*

1931.

			Males.	Females.	Persons.
Whole Colony	...	...	52,552	43,870	96,422
Freetown (including Cline Town)	...	...	30,011	25,347	55,358
Colony (excluding Freetown and Cline Town)	...	...	22,541	18,523	41,064
Protectorate	...	...	796,392	875,666	1,672,058
Natives	...	...	793,877	873,913	1,667,790
Non-natives	...	...	2,515	1,753	4,268

It has been possible to estimate a crude increase of population in the case of Freetown only; the 1934 mid year population is estimated at 59,523 and the rates quoted in various tables are calculated on this figure.

No major legislation affecting the registration of births and deaths was enacted during the year, but the Births and Deaths Registration (Fees) Rules, 1934, is an important minor measure which, it is hoped, will have far-reaching consequences. By these rules, fees formerly payable by informants in respect of the registration of births or deaths have been waived; copies of register entries, if requested at the time of registration, are now also free, while the fee formerly imposed in the case of "permissive registration" has also been abolished. It is hoped that these concessions will induce people to come forward for registration, as it was considered that the people were reluctant to pay even the small sum of 6d. from their very meagre earnings.

## REGISTRATION IN FREETOWN.

The figures registered in Freetown record fairly accurately the actual numbers of births and deaths which occurred during the year; there is, however, the factors of error detailed above and the rates quoted can be considered only as "crude."

*Births.*—The number of births registered in 1934 was 1,339 (males 690 and females 649) compared with 1,378 (males 691 and females 687) in 1933, giving a crude birth-rate of 22.4 per 1,000 in 1934 compared with 23.6 per 1,000 in 1933.

A comparative table for the past three years is given below:—

YEAR.	BIRTHS.			Rate per 1,000 Population.
	Males.	Females.	Total.	
1932	635	641	1,276	22.4
1933	691	687	1,378	23.6
1934	690	649	1,339	22.4

The proportion of male to female births was 106.3: 100.

*Deaths.*—The number of deaths registered was 1,361 (males 775 females 586), giving a crude death-rate of 22.8 per 1,000 for 1934 compared with 1,229 (males 686 females 543) with a crude death-rate of 21.1 per 1,000 for 1933.

A comparative table for the past three years is given below:—

YEAR.	DEATHS.			Rate per 1,000 Population.
	Males.	Females.	Total.	
1932	708	692	1,400	24.6
1933	686	543	1,229	21.1
1934	774	587	1,361	22.8

During the year 434 deaths were registered on Medical Certificate out of a total number of 1,361. Medical Certification of deaths thus increased from 29.3 per cent. in 1933 to 31.8 per cent. in 1934. In the absence of certification, all deaths are investigated by the Health Department; from the information received and the examination made, the presence or absence of infectious diseases is determined, and provisional diagnoses are made by the Medical Officer of Health who is also Deputy Chief Registrar of Births and Deaths. This system is far from ideal, but it is the only one which can operate in a country where the people are still reluctant to enter Government institutions, or who are too poor to call in private medical aid. The gradual evolution of the people will, it is hoped, result in their seeking skilled medical attention to a greater degree, and this belief is in some measure borne out by the increasing percentage of deaths registered on medical certificate.

The table below gives a brief list of those diseases which are the chief causes of deaths. As in former years, respiratory diseases head the list with malaria in the second place. Pulmonary tuberculosis shows more prominently than in former years, due not so much to an actual increase in the incidence of the disease, as to the fact that these needy people the more readily seek institutional treatment in times of economic distress.

		Number.	Proportion per 1,000 Deaths from all Causes.	Certified.
Bronchitis and pneumonia	...	310	227	50
Malaria	...	185	135	17
Pulmonary tuberculosis	...	49	36	27
Dysentery, diarrhoea and enteritis	...	49	36	8
Nephritis	...	47	34	7
Senility	...	45	33	17
Prematurity	...	38	27	15
Infantile convulsions	...	28	20	3
Rheumatism	...	24	17	—
Hemiplegia	...	15	11	2
Strangulated hernia	...	14	10	4
Septicæmia	...	13	9	6

A general list of the causes of deaths registered is given in Table J.

*Infantile and Child Mortality.*—The infantile mortality rate approximates closely to that of 1933, being 233 per 1,000 births compared with 230 in the former year. The figure is high when compared with those obtaining in temperate climates and organized communities. The greatest incidence of death takes place under the age of three months, by which time over 67.9% of the deaths occurring under one year old have taken place. Such an incidence in the early weeks of life can only mean an absence of proper post-natal care, and improvement of these conditions can be achieved only by the patient education at present being carried out by the health visitors whose sphere of activity is gradually extending, and by the lessons inculcated at the ante-natal and child welfare clinic, which is being attended by greater and greater numbers of expectant women and mothers.

Tables C. D. E. give comparative figures for the past five years in respect of the whole Colony, Freetown, and the Colony excluding Freetown. While Table F. shows the infantile mortality rate and the deaths occurring under five years of age for Freetown during 1934, from which it will be seen that of all live births, 34.9 per cent. ceased to live before the expiration of the fifth year, and of these the first year of life accounted for 22.9 per cent.

The principal causes of death of infants under one year are shown to be due to prematurity (38), malaria (35), convulsions (30), broncho-pneumonia (20), and " Ill-defined causes " (46). Fever accounted for 16 deaths, and was in all probability malarial.

*Still-births.*—During the year 136 still-births were registered. This is a large increase over 1933 when only 87 were detected. This increase in figures is due to the greater vigilance of the sanitary inspectors who have been instructed to obtain particulars of all births occurring in their districts.

*Maternal Mortality.*—Twenty-one maternal deaths were registered during 1934 as being due to or associated with pregnancy and parturition. Of these deaths eighteen were medically certified. The maternal mortality rate per 1,000 total births is therefore high for 1934, being as it is 14.2. The causes of death are given in Table H.

#### REGISTRATION IN THE COLONY.

As explained in the general remarks, no reliance can be placed on the figures obtained from the registration districts in the Colony outside of Freetown. At the best, they represent but a proportion of the births or deaths taking place, and cannot be used for the compilation of any accurate figures. The machinery exists but only time and custom will induce the African to register, and this desirable object is better achieved by persuasion than by coercion.

The figures of Births, Deaths and Infantile Mortality Rates for the Colony (excluding Freetown) are shown in Table E.

#### REGISTRATION IN THE PROTECTORATE.

During 1934, although registration was compulsory for the non-native residing in the Protectorate (i.e. Syrians, Colony-born Africans, Europeans, etc.), only .4 per 1,000 of the total Protectorate population of approximately 1,672,058 people were subject to compulsory registration. As previously pointed out compulsory registration can be applied to the native of the Protectorate only on request of the Paramount Chiefs. During 1934 requests were secured from many chiefs in the more important towns, especially in those where a medical nucleus exists. These requests will increase the number of people covered, from .4 to .7 per 1,000. The figures though small, nevertheless, do indicate a greater willingness on the part of the Protectorate native to avail himself of the benefit of registration.

The totals of births and deaths registered are given in Table B; they are so small that no rates can usefully be calculated on them, and they thus serve only as a basis for comparison with later figures to be obtained by a wider application and keener appreciation of the Births and Deaths Ordinance.

J. A. A. DUNCAN,  
*Chief Registrar.*

4th April, 1935.

TABLE A.

*Births and Deaths recorded at all Registration Districts in the Colony—1934.*

DISTRICTS.	BIRTHS.			DEATHS.			DEATHS UNDER TWELVE MONTHS.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Freetown and Cline Town ...	690	649	1,339	775	586	1,361	176	136	312
Murray Town ...	37	27	64	48	37	85	17	11	28
Wilberforce ...	43	33	76	49	30	79	16	6	22
Regent ...	19	22	41	20	15	35	3	4	7
Kissy ...	27	24	51	71	53	124	12	4	16
Wellington ...	34	38	72	38	34	72	6	13	19
Hastings ...	29	23	52	27	15	42	8	6	14
Waterloo ...	83	81	164	82	72	154	10	7	17
Songo Town ...	60	37	97	39	30	69	4	4	8
Tombo ...	26	29	55	36	36	72	6	9	15
Kent ...	5	11	16	9	11	20	2	—	2
Bananas Island ...	5	5	10	5	5	10	—	1	1
York ...	17	23	40	25	17	42	2	5	7
Hamilton ...	13	10	23	21	12	33	5	4	9
Tassoh Island ...	54	53	107	46	30	76	22	11	33
Sherbro Judicial ...	28	38	66	62	48	110	11	9	20
Total ...	1,170	1,103	2,273	1,353	1,031	2,384	300	230	530

TABLE B.

*Births and Deaths recorded at all Registration Districts in the Protectorate—1934.*

DISTRICTS.	BIRTHS.			DEATHS.			DEATHS UNDER TWELVE MONTHS.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
<i>Northern Province.</i>									
Port Loko ...	8	7	15	3	1	4	—	—	—
Kambia ...	15	16	31	29	19	48	5	2	7
Batkanu ...	2	2	4	—	1	1	—	1	1
Makeni ...	9	5	14	5	1	6	—	1	1
Kabala ...	2	9	11	22	15	37	4	4	8
<i>Southern Province.</i>									
Mabang ...	13	6	19	10	6	16	2	1	3
Bauya ...	4	—	4	2	—	2	—	—	—
Moyamba ...	3	5	8	2	—	2	—	—	—
Mano ...	4	6	10	5	3	8	—	—	—
Sembehun ...	2	—	2	—	—	—	—	—	—
Bo ...	5	6	11	2	2	4	—	—	—
Sumbuya ...	2	5	7	1	4	5	—	2	2
Panguma ...	3	11	14	22	16	38	3	2	5
Kenema ...	14	11	25	2	1	3	—	—	—
Kono ...	4	2	6	—	—	—	—	—	—
Daru ...	11	5	16	9	3	12	2	—	2
Pendembu ...	11	13	24	19	13	32	3	2	5
Kailahun ...	43	37	80	36	31	67	6	—	6
Pujehun ...	16	14	30	16	18	34	2	1	3
Sulima ...	1	—	1	—	—	—	—	—	—
Shebar ...	1	—	1	1	—	1	—	—	—
Total ...	173	160	333	186	134	320	27	16	43

Births, Deaths and Infant Mortality Rates for the whole Colony of Sierra Leone (including Freetown), for the last five years.

Year.	Estimated Mid-year Population.	Births Registered.	Crude Birth-rate per 1,000 Population.	Deaths Registered.	Crude Death-rate per 1,000 Population.	Number of Deaths under Twelve Months.	Infant Mortality per 1,000 Live Births.
1930	95,375	1,892	19.8	2,197	23.0	568	300
1931	96,633	2,101	21.7	2,305	23.9	556	265
1932	97,921	2,439	24.9	2,404	24.5	567	233
1933	99,239	2,326	23.4	2,205	22.2	540	232
1934	100,587	2,273	22.5	2,384	23.7	530	233

TABLE D.  
Births, Deaths and Infant Mortality Rates, Freetown, 1930-1934.

1930	54,311	1,102	20.3	1,358	25.0	371	336
1931	55,569	1,263	22.7	1,380	24.8	365	289
1932	56,857	1,276	22.4	1,400	24.6	348	272
1933	58,175	1,378	23.6	1,229	21.1	317	230
1934	59,523	1,339	22.4	1,361	22.8	312	233

TABLE E.  
Births, Deaths and Infant Mortality Rates, Colony (excluding Freetown), for the last five years.

1930	41,064	790	19.2	839	20.4	197	249
1931	41,064	838	20.4	925	22.5	191	228
1932	41,064	1,163	28.3	1,004	24.4	219	188
1933	41,064	948	23.0	976	23.7	223	235
1934	41,064	934	22.7	1,023	24.9	218	233

TABLE F.

Number of deaths in certain age periods under one year and during next four years of age.

Freetown, 1934.

—	No. of Deaths.	Percentage of Deaths under One Year.	Death-rate per 1,000 Live Births.
Under 24 hours ... ...	60	19.2	44
1-7 days ... ...	69	22.1	51
1-2 weeks ... ...	23	7.3	17
Total under 2 weeks ... ...	152	48.7	113
2-4 weeks ... ...	22	7.05	16
Total under 1 month ... ...	174	55.7	129
1-3 months ... ...	38	12.1	28
Total under 3 months ... ...	212	67.9	158
3-6 months ... ...	37	11.8	27
6-9 months ... ...	33	10.5	24
9-12 months ... ...	30	9.6	22
Total under 1 year ... ...	312	100	233

—	No. of Deaths.	Percentage of Total Deaths.	Death-rate per 1,000 Living at all Ages.
0-1 year ... ...	312	22.9	5.2
1-2 years ... ...	83	6.09	1.3
2-3 „ „ „	40	2.9	0.6
3-4 „ „ „	26	1.9	0.4
4-5 „ „ „	14	1.02	0.2
Total 1-5 years ...	163	11.9	2.7
Total 0-5 years ...	475	34.9	7.9
Deaths at all ages ...	1,361	—	22.8

TABLE G.  
*Causes of Deaths under twelve months.*  
*Freetown, 1934.*

International List Number.	Causes.	No.	Certified.
22	Tetanus neonatorum	11	3
22	Tetanus	17	4
36a	Septicæmia	3	—
38	Malaria	35	—
42	Ascariasis	1	—
43 : 2	Thrush	1	—
63 : 1	Rickets	3	2
86	Infantile convulsions	30	1
86	Infantile eclampsia	1	1
106	Bronchitis	19	1
106a	Acute bronchitis	1	1
107	Capillary-pneumonia	1	1
107	Broncho-pneumonia	20	4
109	Pneumonia	6	—
111 : 1	Pulmonary congestion	1	1
111 : 1	Active congestion of lungs	1	1
119&120a:2	Colic	1	—
119&120a:2	Infantile diarrhoea	4	—
122a	Hernia	1	—
158	Inanition	1	—
158	Malnutrition	2	2
158	Marasmus	11	1
158	Congenital debility	11	8
159	Prematurity	38	18
160	Dystocia	1	1
160	Cerebral compression	1	—
161a	Atelectasis	7	6
161a	Asphyxia pallida	3	3
161c	Infected navel	2	—
161c : 1	Septic infection of umbilicus	6	3
200 : 1	Cardiac exhaustion	10	1
200 : 2	Fever	16	1
200 : 3	Unknown or ill-defined	46	—

*Ans. to question 19*

TABLE H.  
*Maternal Deaths associated with Pregnancy and Child-bearing, Freetown, 1934.*

International List Number.	Causes of Death.	Number of Deaths.			Maternal Mortality Rates per 1,000 Live Births.
		Certified.	Uncertified.	Total.	
141 : 1	Ante-partum haemorrhage ...	3	—	3	Puerperal haemorrhage=3.7
144b	Post-partum haemorrhage	—	2	2	
145a	Puerperal sepsis ...	1	—	1	Puerperal sepsis=0.7
146 : 1	Eclampsia ...	3	—	3	Puerperal albuminuria and convulsions=4.4
146 : 1	Ante-partum eclampsia ...	1	—	1	
146 : 1	Eclampsia of labour ...	2	—	2	
147	Toxaemia of pregnancy ...	2	—	2	
147	Pernicious vomiting ...	1	—	1	
149	Prolonged labour ...	4	—	4	Other or unspecified conditions of the puerperal state=6.7
150 : 3	Parturition (unqualified) ...	1	—	1	
150 : 3	Child-birth (unqualified) ...	—	1	1	
	Total ...	18	3	21	

The maternal mortality rate was 15.6 per 1,000 live births (14.2 per 1,000 total births).

TABLE I.  
*Principal Causes of Deaths, Freetown (including Cline Town), 1934.*

		No.	Proportion per 1,000 Deaths from all Causes.	Certified.
Bronchitis and pneumonia	...	310	227	50
Malaria	...	185	135	17
Pulmonary tuberculosis	...	49	36	27
Dysentery, diarrhoea and enteritis	...	49	36	8
Nephritis	...	47	34	7
Senility	...	45	33	17
Prematurity	...	38	27	15
Infantile convulsions	...	28	20	3
Rheumatism	...	24	17	—
Hemiplegia	...	15	11	2
Strangulated hernia	...	14	10	4
Septicæmia	...	13	9	6

The number of deaths registered on Medical Certificate was 434, comprising 31.8 per cent. of the deaths registered.

TABLE J.

*Causes of Death—Freetown (including Cline Town), 1934.*

International List Number.	Cause.	No.	Certified.
1	Typhoid fever ...	1	1
13	Dysentery ...	24	3
13a	Amœbic dysentery ...	4	4
18	Cerebro-spinal meningitis ...	1	1
22	Tetanus neonatorum ...	10	3
22	Tetanus ...	21	4
23	Tuberculous broncho-pneumonia ..	1	1
23	Pulmonary tuberculosis ...	49	27
23	Phthisis ...	12	1
25	Abdominal tuberculosis ...	1	1
32a	Miliary tuberculosis ...	1	1
33	Leprosy ...	1	—
34b, c	Syphilitic meningitis ...	1	1
34b, c	Gumma (unqualified) ...	1	—
36a	Septicaemia ...	13	6
36a	General sepsis ...	1	1
36b	Pyæmia ...	1	1
38	Malaria ...	185	17
38	Malaria cachexia ...	1	1
39	Yaws ...	1	—
39	Trypanosomiasis ...	1	1
40	Ankylostomiasis ...	2	1
42	Dracontiasis ...	1	1
42	Ascariasis ...	3	—
43 : 2	Thrush ...	2	—
44 : 6	Blackwater fever ...	2	2
46	Cancer of intestine ...	2	2
46	Cancer of stomach ...	1	1
48	Cancer of cervix ...	1	1
48	Cancer of body of uterus ...	2	2
53	Cancer of chest wall ...	1	1
53	Cancer of lymph glands ...	2	1
54a	Fibroid uterus ...	1	1
55	Neoplasm of liver ...	1	1
56	Rheumatism ...	24	—
56	Acute rheumatism ...	1	—
56	Rheumatic endocarditis ...	2	—
57 : 1	Chronic rheumatism ...	2	1
57 : 2	Chronic rheumatoid arthritis ...	1	—
59	Diabetes mellitus ...	2	2
63 : 1	Rickets ...	18	6
66a	Goitre ...	1	1
67	Lymphatism ...	1	1
69 : 2	Toxæmia ...	7	6
71a	Pernicious anæmia ...	1	1
71b : 2	Anæmia ...	2	2
73 : 2	Abscess of spleen ...	1	1
73 : 2	Rupture of spleen ...	1	1
73 : 2	Enlargement of spleen ...	1	1
78a	Abscess of brain ...	1	1
79	Meningitis ...	1	—
79	Pneumococcal meningitis ...	1	1
82a	Cerebral haemorrhage ...	11	5
82a : 1	Sub-dural haemorrhage ...	1	1
82a : 2	Apoplexy ...	2	1
82b : 2	Cerebral thrombosis ...	1	1
82c : 1	Hemiplegia ...	15	2
82c : 2	Paralysis ...	4	—
82c : 2	Paraplegia ...	2	1
84b	Dementia ...	1	—
84b	Mental disease ...	1	—
86	Infantile convulsions ...	28	3
86	Infantile eclampsia ...	1	1
87b	Peripheral neuritis ...	1	1
87e	Convulsions ...	31	2
87e	Nervous debility ...	1	1

TABLE J—*continued.*  
*Causes of Death—continued.*

International List Number.	Cause.	No.	Certified.
89a	Otitis ... ...	1	1
90	Pericarditis with effusion ...	2	2
91 : 1	Ulcerative endocarditis ...	1	—
91 : 1	Infective endocarditis ...	1	1
92	Chronic endocarditis ...	1	1
92 : 1	Aortic incompetency ...	9	9
92 : 2	Mitral incompetency ...	3	3
92 : 2	Mitral regurgitation ...	3	2
92 : 4	Endocarditis ... ...	2	2
92 : 5	Valvular disease ... ...	6	4
93b : 1	Fatty degeneration of heart ...	1	1
93b : 3	Cardiac degeneration ...	2	1
93b : 3	Myocardial degeneration ...	9	9
93c	Myocarditis (unqualified) ...	2	2
95b : 2	Cardiac disease ... ...	10	2
95b : 2	Enlargement of heart ...	1	1
96	Aneurysm ... ...	4	4
97	Arterio-sclerosis ... ...	2	2
100 : 1	Hæmorrhoids ... ...	1	—
101	Adenitis ... ...	1	—
104 : 2	Abscess of frontal sinus ...	2	2
106	Bronchitis ... ...	98	1
106a	Acute septic bronchitis ...	4	4
106a	Acute bronchitis ...	1	1
106b	Chronic bronchitis ...	33	3
106b	Bronchiectasis ... ...	2	2
107	Broncho-pneumonia ...	64	9
107	Septic broncho-pneumonia ...	1	1
107	Capillary pneumonia ...	1	1
108	Lobar pneumonia ...	20	19
109	Pneumonia ... ...	83	6
109	Double pneumonia ...	3	3
110 : 2	Pleurisy ... ...	5	1
111 : 1	Pulmonary congestion ...	1	1
111 : 1	Active congestion of lung ...	1	1
112	Asthma ... ...	1	—
114b : 2	Abscess of lung ...	3	3
115 : 1	Ulcerative stomatitis ...	2	1
115 : 1	Stomatitis ... ...	1	1
115 : 2	Cellulitis of neck ...	1	1
115 : 3	Abscess of tonsil ...	1	—
118 : 2	Dyspepsia ... ...	3	—
119 & 120a : 1	Colitis ... ...	3	3
119 & 120a : 1	Entro-colitis ...	2	2
119 & 120a : 2	Diarrhoea ...	21	1
119 & 120a : 2	Infantile diarrhoea ...	4	—
119 & 120a : 2	Enteritis ...	4	4
119 & 120a : 2	Colic ...	1	—
119 & 120a : 2	Gastro-enteritis ...	1	1
119 & 120a : 2	Intestinal toxæmia ...	1	1
119 & 120b ...	Ulcer of intestine ...	3	2
121	Appendicitis ...	2	2
122a	Hernia ...	3	—
122a	Inguinal hernia ...	2	1
122a : 1	Strangulated hernia ...	14	4
122b	Intestinal obstruction ...	3	2
122b	Volvulus ...	1	1
123 : 1	Intestinal stasis ...	2	1
123 : 3	Stricture of rectum ...	1	1
124b	Cirrhosis of liver ...	6	4
124b	Hepatic cirrhosis ...	2	2
125 : 2	Hepatic abscess ...	2	2
128	Pancreatitis ...	1	1
129	Peritonitis ...	3	3
130	Acute nephritis ...	4	3
131	Chronic nephritis ...	27	19
132	Nephritis ...	14	5

TABLE J—*continued.*  
*Causes of Death—continued.*

International List Number.	Cause.	No.	Certified.
132	Uraemia	1	1
135a	Cystitis	2	2
135b	Rupture of bladder	1	1
135b	Retention of urine	1	1
135b	Vesico-vaginal fistula	1	1
136a	Stricture of urethra	2	1
136a	Stricture (unqualified)	2	1
136b	Extravasation of urine	3	3
136b	Urethral fistula	1	1
136b	Perineal abscess	1	1
137	Prostatitis	2	2
137	Hypertrophy of prostate	3	3
138	Hydrocele	1	1
138	Abscess of scrotum	1	1
138	Cellulitis of scrotum	1	—
139a : 3	Pelvic cellulitis	1	1
139a : 3	Pelvic abscess	2	2
139b	Retained menses	1	—
139c	Mastitis	1	1
141 : 1	Ante-partum haemorrhage	3	3
144b	Post-partum haemorrhage	2	—
145a	Puerperal sepsis	1	1
146 : 1	Eclampsia (unqualified)	3	3
146 : 1	Ante-partum eclampsia	1	1
146 : 1	Eclampsia of labour	2	2
147	Pernicious vomiting	1	1
147	Toxaemia of pregnancy	2	2
149	Prolonged labour	4	4
150 : 3	Parturition (unqualified)	1	1
150 : 3	Childbirth (unqualified)	1	—
152 : 1	Cellulitis	2	2
152 : 2	Multiple abscess	1	1
156b	Lumbago	1	—
158	Congenital debility	11	8
158	Malnutrition	4	4
158	Marasmus	11	1
158	Inanition	1	—
159	Prematurity	38	15
160	Dystocia	1	1
160	Cerebral compression	2	—
161a	Atelectasis	6	4
161a	Asphyxia pallida	2	2
161c	Infected navel	2	—
161c : 1	Septic infection of umbilicus	5	2
161c : 2	Pemphigus neonatorum	2	1
162b	Senility	45	17
	Homicide by cutting		
174	instrument	1	1
179	Irritant poison	1	1
181	Accidental burns	4	3
192	Lightning	1	1
192	Electric shock	1	1
194 : 2	Accidental contusion	1	—
194 : 2	Accidental fracture	7	7
195	Found drowned	2	2
198	Judicial execution	3	3
200 : 1	Cardiac failure	8	—
200 : 1	Cardiac exhaustion	12	2
200 : 1	Heart failure	1	—
200 : 2	Ascites	2	1
200 : 2	Pyrexia of uncertain origin	1	1
200 : 2	Wasting	3	—
200 : 2	Abdominal disease	2	—
200 : 2	Cachexia	1	—
200 : 2	Asphyxia	3	3
200 : 2	Fever	16	1
200 : 3	Unknown	68	1

TABLE K.  
*Death Certificates, Freetown and Kissy, 1933 and 1934.*

YEAR.	European Hospital.	Connaught Hospital.	P. C. M. Hospital.	Kissy Institution.	Private Practitioners.	Ships in Harbour.
1933	3	208	21	60	129	—
1934	—	269	28	49	137	—

TABLE L.  
*Mortality according to Age and Sex.—Freetown, 1934.*

—	Under 24 hours.	24 hours to 1 year.	1-5 years.	5-15 years.	15-25 years.	25-45 years.	45-65 years.	65 years and over.	—
Males ...	37	139	90	25	38	216	165	64	774
Females ...	23	113	73	29	39	111	101	98	587
Persons ...	60	252	163	54	77	327	266	162	1,361

### III—Prisons and Asylums.

#### KISSY LUNATIC ASYLUM.

*Staff.*—Medical Officer-in-charge

First Class Dispenser

Chief Attendant

Assistant Chief Attendant

11 Male Attendants

Matron

3 Female Attendants

1 Cook

4 Porters.

There has been a marked decrease in the number of deaths during the period under review, a total number of 10 as against 16 in 1933.

The deaths were due to the following:—

1. Pneumonia meningitis
2. Pyæmia with purulent pericarditis and cerebral abscess
3. Gastro-enteritis
4. Hypostatic pneumonia
5. Double pneumonia
6. Pleurisy and broncho-pneumonia
7. Chronic intestinal nephritis chronic sepsis
8. Chronic nephritis and pneumonia pericarditis
9. Chronic nephritis chronic sepsis
10. Broncho-pneumonia.

The Male Visiting Committee made four visits, and the Female Committee one visit. Parties from various religious associations made eight visits.

The following table gives the statistical details of in-patients during the year.

	Males.	Females.	Totals.
Remaining in the Asylum 31st December, 1933	44	32	76
<b>Admitted under observation</b>	<b>63</b>	<b>15</b>	<b>78</b>
Admitted certified	1	—	1
Deaths amongst certified	8	1	9
Discharged after observation	30	10	40
Discharged as cured	1	3	4
Discharged on trial (Governor's Order)	1	—	1
Re-admitted	7	4	11
Number of patients certified	11	4	15
Remaining in Asylum 31st December, 1934	57	33	90

#### ANNUAL MEDICAL REPORT ON THE FREETOWN PRISON FOR THE YEAR 1934.

Dr. A. J. Johnson was in charge of the Prison as Medical Officer from 1st to 23rd January, Dr. A. C. Dalzell for two days, and Dr. E. J. Wright from 26th January to 26th May when he was relieved by Dr. E. Taylor-Cummings on the event of his proceeding on vacation leave. Dr. Wright resumed duty on the 30th of October and continued in charge till the end of the year.

Mr. P. Q. A. John was Resident Dispenser from 1st January to 8th June, Mr. V. M. Young temporarily for a fortnight, and Mr. M. B. King from 23rd June to the end of the year under review.

#### GENERAL HEALTH.

##### (a) Prison Officers.

*European.*—Good throughout the year.

*Africans.*—Satisfactory in so far as the diseases from which they suffered were not of a serious nature. 99 were treated, of which number 21 were placed on the sick list and 9 referred to the Connaught Hospital for institutional treatment.

(b) *Prisoners.*—The health of prisoners was satisfactory. There were 697 out-patient cases with 11,204 subsequent attendances. The prevalent diseases were malaria, minor injuries, ulcers, constipation, skin affections, and dyspepsia often associated with avitaminosis, which was also frequently diagnosed by the presence of glazed tongue, swollen condition at angles of mouth and keratosis of skin.

Seventy-eight were admitted into the Gaol Hospital, of which number:—

- (a) one with Hemiplegia, and another with pulmonary tuberculosis were transferred to the Connaught Hospital on the expiration of their terms of imprisonment;
- (b) one with peritonitis was referred to the Connaught Hospital for surgical treatment by the Specialist and duly returned;
- (c) only two died; that is one prisoner awaiting trial had an apoplectic seizure, and one convict succumbed to chronic pulmonary tuberculosis after a long period of treatment in the Gaol Hospital.

There was no epidemic throughout the year. Nine prisoners were sent to the Lunatic Asylum at Kissy under Emergency Certificates. Only two were not certified.

Apart from the Medical Officer's daily attendance, prisoners report at all hours with various complaints, mostly trivial; and on Wednesday afternoons a medical inspection of all prisoners forms a regular routine, and the administration of general prophylactic treatment is carried out.

The monthly weight record of prisoners shows a satisfactory range of 98 to 200 lb.

Three condemned prisoners were executed during the year.

A pathological examination of the blood and faeces of prisoners with three months sentence and over is also a regular routine, and for 1934 the results are as follows:—

BLOOD.						
M. T. Rings	...	...	...	...	...	85
Quartan	...	...	...	...	...	16
No parasites	...	...	...	...	...	307
<hr/>						
						408
FÆCES.						
Ankylostoma ova	...	...	...	...	...	82
Ascaris ova	...	...	...	...	...	52
Strongyloides larvæ	...	...	...	...	...	12
Trichuris ova	...	...	...	...	...	15
Tænia ova	...	...	...	...	...	4
Schistosoma Mansoni	...	...	...	...	...	1
Intestinal flagellates	...	...	...	...	...	1
Giardia cysts	...	...	...	...	...	1
Oxyuris	...	...	...	...	...	1
E. Coli cysts	...	...	...	...	...	1
No parasites	...	...	...	...	...	170
<hr/>						
						340

Only eight minor operations were necessary, i.e.:—

Incision and drainage of infected hand	...	...	2
Incision and drainage of abscess of foot	...	...	3
Removal of skin tumour	...	...	1
Dilatation of urethral structure	...	...	1
Incision of abscess left groin	...	...	1
<hr/>			8

A nine-month old baby admitted with a female prisoner was removed to the Princess Christian Mission Hospital.

The sanitary condition of the prison compound was well maintained throughout the year.

A statistical return is appended herewith.

#### VISITS.

##### *The Visiting Justices*

The Acting Governor, T. N. Goddard, Esq., M.B.E.

The Acting Governor, H. R. R. Blood, Esq., C.M.G.

H. E. The Governor, H. Monck-Mason Moore, Esq., C.M.G.

E. J. WRIGHT,  
Medical Officer.

#### STATISTICAL RETURN—1934.

Remaining in hospital end of December, 1933	...	...	8
Admitted during the year 1934	...	...	78
Remaining in hospital end of December, 1934	...	...	5
Daily average of prisoners in gaol	...	...	260.39
Daily average of prisoners in gaol hospital	...	...	4.45

## OUT-PATIENTS.

		Government Officials.	Subsequent Attendances.	Prisoners.	Subsequent Attendances.
March quarter	...	15	17	178	1,759
June quarter	...	31	31	228	3,019
September quarter	...	33	45	153	2,951
December quarter	...	20	30	138	3,475
		99	123	697	11,204

## IN-PATIENTS.

		Admitted.	Cured.	Improved.	Not Relieved.	Died.	Observation.
March quarter	...	29	9	14	2	1	3
June quarter	...	20	4	14	1	1	—
September quarter	...	18	12	5	1	—	—
December quarter	...	11	2	5	4	—	—
		78	27	38	8	2	3

## PRISONERS.

		New Admissions Examined.	Remands and Trials.	Corporal Punishment.	Execution.	Solitary Confinement.
March quarter	...	165	48	—	—	72
June quarter	...	170	29	—	3	38
September quarter	...	266	43	—	—	64
December quarter	...	187	66	—	—	65
		788	186	nil	3	239

		1931.	1932.	1933.	1934.
Total number of prisoners admitted	...	...	913	749	895
Average strength	...	...	239	233	264
Total deaths	...	...	4	7	5
Total number of prisoners on sick list	...	...	179	152	196
Daily average number on sick list	...	...	9.1	6.25	7.03
Daily sick-rate per 1,000 average strength	...	...	38.07	26.82	26.51
Death-rate per 1,000 of average strength	...	...	16.73	30.4	18.93
					7.69

PRISON.	Daily Average Number in Custody in 1934.	Daily Sick-rate per 1,000 of Average Strength	Death-rate per 1,000 of Average Strength.
Freetown	259	17.18	7.69
Pujehun	9	47.77	—
Kenema	44	112.72	—
Moyamba	28	81.71	—

E. J. WRIGHT,

Medical Officer in-charge, Freetown Prison.

PRISON DEPARTMENT,  
FREETOWN,  
22nd January, 1935.

## IV—Hygiene and Sanitation.

### A—GENERAL REVIEW OF WORK DONE AND PROGRESS MADE.

#### I—PREVENTIVE MEASURES.

##### (a) *Insect-borne Diseases.*

*Malaria.*—During the year the usual anti-mosquito measures have been carried out in as far as financial allocations permitted. The temporary measures include the routine weed cutting and the felling of high bush in inhabited areas. In addition a considerable amount of tree felling instituted in 1933 was carried on in 1934 in Freetown and in several Protectorate stations, notably Moyamba, Bo and Port Loko, with most beneficial results; in Freetown alone 4,058 trees were felled and in that year the number of larvæ detected in Hill Station, Freetown, numbered 90 as compared with 482 in 1933.

The construction of permanent drainage was again contingent on the amount of funds available, nevertheless 7,756 lineal feet of 14" and 18" concrete drains were added to the lay-out, whilst the various brooks which traverse the City were canalized temporarily, and other streets were provided with concrete channels to replace the former old square section laterite drains.

The sanitary inspection of compounds was carried out as in former years, and in so far as could be performed by the depleted staff available.

Six thousand one hundred and ninety-seven cases of malaria were treated during the year, only 2 of which are shown as fatal; these figures compare favourably with those of 1933 which were 6,548, of which 7 were fatal.

As in former years the greatest seasonal incidence was experienced in the months of greatest rainfall, and also in the mid dry season when the cold harmattan winds are at their strongest.

The report of the Medical Officer of Health, Freetown, is here incorporated to demonstrate the measures carried out in the area of Freetown during the period under review:—

#### ANTI-MALARIA MEASURES.

As I recorded last year, the most important of these measures consists of the daily and systematic inspection of compounds. Each sanitary inspector is given a section of the town and he is responsible for the sanitary condition of his particular section. Each inspector inspects and reports on the condition of forty compounds daily, and as there are fourteen sections, it will be seen that some 560 compounds are inspected daily in Freetown. Although the inspector's attention is directed to all matters pertaining to public health during his inspection, he is chiefly on the look out for evidences of mosquito breeding. Each inspector's report is carefully scrutinized and checked by supervising inspectors and surprise visits are made by the Sanitary Superintendent and Medical Officer of Health.

During 1934, 130,182 compounds were inspected and mosquito larvæ were found in 496. The owners of these compounds were prosecuted and convicted, and fines imposed by the Magistrate reached a total of £62 17s 6d. the larvæ were classified as follows:—

Anopheles	...	nil	0·38 per cent. in compounds.
Culex	...	58	
Stegomyia	...	438	
496			

*Oiling.*—50,772 pools and 6,389 gutters were oiled during the year. As I mentioned in my report of last year, the whole town is covered by our oiling gangs once every six days. During the heavy rains, of course, oiling work is reduced to a minimum, to be resumed as the rains diminish, when excessive breeding of mosquitoes is liable to occur. During the year approximately two-and-a-half miles of drainage were laid by the Public Works Department and several old gutters repaired.

Larvæ found in pools and gutters were as follows:—

Anopheles	...	72	0·33 per cent. in pools and gutters.
Culex	...	38	
Stegomyia	...	80	
190			

*Trees*.—28,901 trees were inspected during the year and 781 samples of larvae found:—

Anopheles	...	nil	2·7 per cent. in trees.
Stegomyia	..	749	
Culex	..	32	
781			

Holes in trees are either chipped so as to allow water to run away, or cemented up. 1,393 holes were chipped and 2,854 cemented. Because of the danger of mosquito breeding in old and hollow trees, 4,058 were felled during the year. There is still a lot of work to be done in this direction, as although so many have been felled, there is little appreciable difference to be seen, and as evidenced by the number of samples of larvae found, the presence of trees, although beautiful, is decidedly dangerous.

*Inspection of Boats and Canoes*.—6,080 boats and canoes were inspected and 31 samples of larvae found:—

Anopheles	...	2	0·5 per cent. in boats and canoes.
Stegomyia	...	22	
Culex	...	7	
31			

*Cesspits*.—These were inspected regularly and watery cesspits oiled.

*Canalization*.—Canalization of the four main streams, namely Granville Brook, Nicol's Brook, Moore's Brook and Alligator Brook, was carried out in December.

Sanders Brook has been permanently canalized but should have been faced with concrete as between the bricks the cement has loosened here and there leaving small holes capable of holding tiny quantities of water quite sufficient to allow of mosquito breeding.

*Tins and Bottles*.—Men are engaged during the rainy season in picking up tins, bottles and other receptacles liable to hold water.

*Bushing and Weeding*.—This has not hitherto been included under the heading of Anti-Malarial Measures, but as the presence of bush and high grass, apart from offering a resting place for adult mosquitoes during the day, may also, especially around Freetown, offer a hiding place for old tins, bottles, etc., I consider this is an Anti-Malarial Measure of some importance. Special weeding gangs were engaged this year in July, and the yearly clearing of bush at Hill Station was carried out in December.

During the rains the grass grows very rapidly, and if untouched would probably reach a height of four or five feet within two months. Tower Hill in particular requires regular weeding as the base of the hill is surrounded by houses, at the back of which tins, bottles, etc., are likely to be thrown into the long grass.

#### MOSQUITO LARVAE INDEX.

—	1934.	1933.	1932.
First Quarter	0·29 per cent.	1·14 per cent.	0·28 per cent.
Second „	2·00 „	0·86 „	0·57 „
Third „	2·68 „	2·29 „	0·57 „
Fourth „	0·86 „	1·43 „	1·43 „

These figures are the result of specialized European inspection of compounds.

Apart from the special index of the town taken quarterly, an index is now compiled weekly. The present low index is interesting in view of the cases of yellow fever cropping up elsewhere from time to time, and it is almost certain that yellow fever could not spread far in our midst so long as this low index can be maintained. The general public seem to take a much greater interest now than heretofore in reducing the number of possible breeding places, and their assistance in combating the mosquito is certainly essential.

It is of interest to note that 749 samples out of a total of 1,289 samples of stegomyia found in Freetown were discovered breeding in trees, and I would advise that in 1935 as many old trees as possible should be felled.

To carry out the constant inspection of trees, oiling, sweeping of drains and gutters, bushing and weeding, collection of tins and bottles, inspection of compounds, etc., as large a staff as possible is necessary, with adequate and keen supervision. Our present staff of inspectors could be increased with advantage, and more intensive training of young inspectors is required.

#### INFECTIOUS DISEASES.

*Smallpox*.—During the year 11 cases were discovered in Freetown, 7 of which were imported. This shows a reduction from 1933 of 14 when 25 cases were discovered, 17 of which were Freetown cases.

All precautions are still taken as regards arrivals in Freetown by train and sea.

*Chicken-pox*.—Sixty-six cases arose during the year, an increase of 19 from the previous year, so that this disease has shown a small but gradual yearly increase in Freetown since 1931. These cases were all isolated and precautions taken to prevent the spread of the disease.

*Typhoid*.—Five cases of typhoid were diagnosed, as against 4 in 1933.

*Pulmonary Tuberculosis*.—There were 49 deaths from this disease during the year as compared with 47 in 1933.

As soon as a case is notified the house is visited and steps taken to prevent the spread of this disease as much as possible.

*Plague*.—No case occurred; rats were examined as usual but no signs of infection with *B. pestis* were observed. The trapping and examination of rats will be conducted on a larger scale during 1935, and an attempt made to glean information as to their breeding places and seasons, the various types in Freetown and other useful data.

#### REFUSE COLLECTION AND DISPOSAL.

During the year 10,765 loads of refuse were collected in Freetown—which gave approximately 13,000 tons. The refuse was collected from seventy-four public dustbins, schools, firms, etc., taken to Cline Town and loaded into trucks; thence by rail to Allen Town, where it was tipped.

There was very little tipping of refuse in Freetown during the year, as an additional truck was added at Cline Town. In previous years it was found that tipping in town, no matter how carefully supervised, led to fly-breeding. Even with a good layer of soil, fly larvae were still observed, probably because of the cracks in the soil which developed quickly. No fly breeding has been observed at the Allen Town Dump as spontaneous combustion continually develops and there is too much heat for the development of larvae.

No new lorries were added to the fleet this year, but a new Bedford lorry has been purchased for 1935. At least another two lorries will be required in 1936 if funds permit; 5,005 notices were served for the cleaning of compounds, almost a thousand less than the previous year, while the amount of refuse disposed of was much increased. This seems to show that compounds are kept cleaner than hitherto.

#### SEWAGE DISPOSAL.

The fifteen public latrines continue to serve the needs of the public satisfactorily. These are cleared and cleaned by our labour daily. 4,498 notices were served for the cleaning of cesspits, and 1,891 watery cesspits were oiled. The number of notices which has to be served annually indicates the manner in which cesspits are looked after in this country, and the state into which they would drift were it not for constant supervision.

#### INSPECTION OF MARKETS AND SLAUGHTERHOUSE.

These are inspected daily by our staff, and a report on their condition is sent to the Medical Officer of Health daily. There is little change to report in the condition of these places; so long as they are under inspection they are fairly well kept, although there could be a great improvement. Some of the markets, such as Krootown Road market, are in old buildings utterly impossible to clean, and some markets are built on wrong lines altogether.

The slaughterhouse, on the other hand, has been kept in excellent condition, and is a credit to the town. The following animals were slaughtered during the year:—

Bullocks	...	...	...	...	...	4,460
Sheep	...	...	...	...	...	457
Goats	...	...	...	...	...	599
Pigs	...	...	...	...	...	139

The method of slaughtering now in use consists of stunning by the Captive Bolt Pistol and then the knife is used to cut the throat. This undoubtedly saves a lot of unnecessary suffering by the animal.

Animals are inspected before and after death by a higher grade sanitary inspector, and carcasses for condemnation are inspected by the Medical Officer of Health. The City Council have now introduced the scheme, as suggested in my last Annual Report, whereby each owner pays a small amount for every animal killed and in the event of condemnation and destruction of the carcass he receives compensation from the Council.

#### PORT HEALTH WORK.

Freetown was not in quarantine during 1934. Cases of yellow fever and plague arose in various ports on the coast during the year, and ships coming from those ports were dealt with accordingly. Towards the end of the year some cases of yellow fever were notified from Bathurst, and strict precautions were taken as regards vessels which had called at that port.

The following is a summary of the vaccinations and disinfections performed during the year:—

*Vaccinations*—Deck passengers 566, Kroo boys, 2,016.

*Disinfections*—Deck passengers 738, Kroo boys, 3,731.

734 ships arrived during 1934; 375 from the North and 359 from the South. 31 ships were boarded between 6 p.m. and 10 p.m.

*Embarking*—Deck passengers 873, Kroo boys, 15,277.

*Disembarking*—Deck passengers 1,269, Kroo boys, 16,034.

All Kroo boys embarking from Freetown are inspected before embarkation, and all Kroo boys and deck passengers disembarking are inspected on board and, if necessary, passed through the disinfecting chamber at the wharf.

#### INSPECTION OF SCHOOL CHILDREN.

Very little work was done in this direction as there is really no time to spare if this work is to be properly tackled. The appointment of a wholetime School Medical Officer might be considered if and when financial conditions improve.

#### LATRINE ACCOMMODATION IN SCHOOLS.

There has been no improvement in this matter, and apparently little or nothing can be done meantime. The present state of affairs merits the closest investigation, and the provision of properly constructed hygienic school latrines is a vital necessity.

#### HILL STATION.

Larvæ found in Hill Station during 1934 were as follows:—

Stegomyia	...	...	...	...	...	74
Culex	...	...	...	...	...	15
Anopheles	...	...	...	...	...	1
Total	...	...	...	...	...	<u>90</u>

Most of these were found breeding in trees and flower plants, and there are still far too many old mango and palm trees at Hill Station. The European residents there are not sufficiently keen in reducing to a minimum the number of possible mosquito breeding places in and around their houses, as has been proved by the finding of samples of larvæ in meat safes, tins, and other receptacles.

Special bushing gangs were engaged in January and again at the end of the year, and after cutting, the bush was fired. This bush-cutting is an ever recurring annual expenditure and the most satisfactory way of dealing with this would be to grub up the roots at the time of cutting and thereafter the work would simply consist of grass-cutting, with a resulting reduced expenditure. This may be adopted when conditions improve.

During 1933 no less than 482 samples of mosquito larvæ were discovered at Hill Station as compared with only 90 in 1934. This tremendous decrease is definitely due to the number of trees felled at the end of 1933, and is a sufficient argument in favour of continuing our efforts in tree-felling at Hill Station.

The drainage of compounds at Hill Station is very unsatisfactory. In nearly all compounds the drains are led to a distance of a few feet beyond the compound fence and then stop abruptly, with the result that residents have ideal breeding places for mosquitoes in close proximity to their quarters. These drains are now being attended to, however, and a further reduction of the numbers of mosquitoes at Hill Station may be expected in 1935.

## COMPARATIVE TABLE OF LARVAE FOUND.

		HILL STATION.		FREETOWN.	
		1933.	1934.	1933.	1934.
Anopheles	..	...	...	Nil	7
Culex	...	...	...	67	5
Stegomyia	...	...	...	40	74
Culex and Stegomyia	...	...	...	4	—
Stegomyia and Anopheles	...	...	...	—	—
				482	90
				27	496

W. ALLAN,  
Medical Officer of Health.

In the remainder of the Colony and in the Protectorate eight medical officers, seventeen dispensers and thirteen sanitary inspectors were employed and performed routine sanitary inspections in their respective areas. In addition, it has been found possible to post the Chief Sanitary Superintendent for whole time duty in the Protectorate, where his time is fully occupied in inspecting health areas in which he advises on the necessary temporary measures to be taken, and in many cases actively supervises the work being carried out.

In the latter part of 1934 it was found possible to employ labour paid from the Protectorate Mining Benefit Fund in the Protectorate; labourers were posted to thirty-six towns for the carrying out of routine sanitary duties. Many of the towns were far removed from European supervision and perhaps not much benefit was achieved from the use of the labour, but in those areas where supervision has been exercised undoubtedly improvement has been effected. By a different organization of the scheme it is hoped in 1935 to be able to provide funds for the construction of semi-permanent sanitary structures in Protectorate towns.

*Filariasis.*—In 1934 there were 333 cases treated in Government institutions compared with 282 cases in 1933. Both in Freetown and in the Protectorate there is a definite increase in the willingness of sufferers to come forward for operative treatment, nevertheless, the numbers at present coming forward represent only a small proportion of the actual numbers of infections which in the main occur in the Protectorate, though many of the cases reporting for treatment eventually reach the Surgical Specialist in Freetown for operation.

*Trypanosomiasis.*—During the year only four cases with one fatality were reported in the whole of the Colony and Protectorate.

*Yellow Fever.*—Though this disease was widespread over the whole of the West African Continent during 1934, no case, so far as is known, occurred in Sierra Leone. Apart from the routine anti-mosquito measures carried out locally, great attention was paid to the sea-borne traffic from adjacent colonies; ships from infected or suspected ports were anchored at least 500 yards from shore and were worked only in the daylight hours; passengers from infected or suspected ports were medically examined on disembarkation and were kept under surveillance for a period of six days; those unable to supply satisfactory proofs of identification, domicile, etc., were kept under observation for the same period.

The following countries suffered from Yellow Fever during the period under review: Gold Coast, Nigeria, Haute Volta, Ivory Coast, French Guinea, Senegambia, Senegal.

In October a proposal for the introduction of protective inoculation was led forward, but certain technical difficulties at that time prevented its immediate introduction into this Colony.

## (b) EPIDEMIC DISEASES.\*

*Plague.*—No cases were reported or discovered during the year. In conformity with the provision of the International Sanitary Convention of 1926 systematic rat-catching was carried on throughout the year; 5,793 rats were caught and examined, and no evidence of epizootic disease was detected.

\* The disparity of the Medical and Health figures for the following diseases is explained partly by the laxity of notification from out-stations, notification by private practitioners to the Health Office only, and partly by the registration of causes of death (not medically certified) by lay informants.

During 1934 French Senegal was infected with plague, thus, all ships from that country were examined by the Port Health Service for the evidence of rats, all deck passengers medically examined and disinfected, while all their personal effects were passed through the Washington Lyon steam disinfecter.

*Smallpox and Vaccination.*—The outbreak which originated in 1932 on the north-western portion of Sierra Leone spread by slow degrees eastward through the Northern Province. A new source of infection entered through the eastern border of the Protectorate and quickly spread along the railway line and the arterial system of roads in 1933. In this region, i.e. the Southern Province, the population density was greater while the possibility of spread of the disease by rail, lorry, and river was greatly increased, meantime the people were for the most part equally averse to vaccination. Thus, in 1934, smallpox still continued, mostly in the Southern Province, though minor foci of infection were reported from various districts in the North.

In the absence of a definite extensive and expensive anti-smallpox campaign which would have cost at least £30,000 over a period of five years, and which in these times of financial depression could not be justified, the activities of the Health Department were concentrated on those centres of infection which occurred along the main routes of traffic and which therefore were calculated seriously to affect or to impede the normal course of trade. It is to be expected that the disease will now soon burn itself out, and that the normal annual vaccinations performed will serve to prevent all but the sporadic cases which will continue to occur in the more remote districts, or in those areas where the people flee from vaccination.

Tables showing the number of the cases which occurred in 1934 and the vaccinations performed are included hereunder.

AREA.	Number of Cases Discovered.	Number of Deaths.	Number of Vaccinations.
<b>COLONY DISTRICTS :</b>			
Freetown ... ... ...	11*	...	5,385
Headquarters Judicial ... ...	11	1	2,545
Sherbro ... ... ...	198	36	3,498
<b>PROTECTORATE DISTRICTS :</b>			
<i>Northern Province:</i>			
Port Loko ... ... ...	206	7	1,017
Kambia ... ... ...	5	2	2,013
Karene ... ... ...	3	...	428
Bombali ... ... ...	117	1	1,863
Koinadugu ... ... ...	48	12	1,325
<i>Southern Province:</i>			
Kailahun ... ... ...	238	43	9,633
Kono ... ... ...	187	1	...
Kenema ... ... ...	374	65	10,190
Bo ... ... ...	560	79	7,023
Moyamba ... ... ...	207	41	6,113
Pujehun ... ... ...	168	25	2,794
	2,333	313	53,827

\* Nine of these cases were imported.

All deck passengers and Krooboys returning to Freetown are medically examined and, if necessary, they are vaccinated. All Kroo labourers embarking on ships for duty are similarly dealt with.

*Dysentery.*—423 cases including 6 deaths were reported and treated in 1934 as compared with 253 cases and 81 deaths in 1933. The figures bear little resemblance to the actual cases occurring annually, the more especially in many Protectorate villages where the standard of even elementary sanitary principles is at a low level.

Gradually an improvement in the disposal of night soil and the protection of water supplies is being effected, and it is only by these means, combined with the gradual education of the people in sanitary principles, that any advance can be made.

*Typhoid Fever.*—During the year 6 cases including 1 death occurred; 2 of the cases were in Europeans, the remainder, including the fatal case, were in Africans. The cases occurred in different parts of the City, at different times of the year, and no case relation could be established. Despite diligent search by the Health staff the source of the infections could not be discovered; they cannot be considered to have been due to defect in any municipal or public supplies, i.e. pipe-borne water, mineral waters, food supplies, or the cases would have been more numerous and would have presented some relativity, whereas these cases were merely sporadic and independent.

The preventive measures adopted included the thorough disinfection of the patients' residences, including radical treatment of the cesspits, sterilization of all fomites. Persons in former contact with the patient were kept under surveillance for the detection of the occurrence of any intestinal symptoms however vague. Free inoculations of anti-typhoid vaccine were made available for the non-indigenous population.

As the majority of the diagnoses were made in hospital and when the patients' condition contra-indicated their being moved to the Infectious Diseases Hospital, the cases were treated by open ward isolation without any untoward effect on the other occupants of the wards.

Thorough disinfection of the wards, etc., was subsequently carried out when the infective patients had been discharged.

*Cerebro-spinal Meningitis.*—No case was notified throughout the year.

*Tuberculosis.*—A total of 258 cases including 26 deaths were treated in 1934. Of this number by far the majority were of the respiratory type. The disease is fairly evenly spread over the whole territory, though owing to the lack of diagnostic facilities in the Protectorate the number of cases occurring in relation to the population appears smaller than in the Colony.

The number of cases is higher than in 1933, due in some measure to a better appreciation of the benefits of institutional treatment, but probably in a much greater degree owing to the hard economic times through which the people are passing, which has in a large measure caused the family custom of mutual support to break down.

The spread of tuberculosis in this country is by contact, or in other words, it is an association disease; the main line of attack therefore lies in the improvement of housing conditions, the segregation of active cases, and the education of the growing population in the principles of personal prophylaxis.

*Rabies.*—One fatal case of human rabies occurred during the year. The diagnosis both in the patient and in the dog which caused the disease was proved by pathological examination.

The case was that of a girl twelve years old who gave a history of having been bitten on the face three weeks previously by a "mad" dog; a small boy accompanying her had also been bitten, on the leg, but showed no symptoms. The girl died 24 hours after admission; she showed all the typical signs of rabies. The boy received anti-rabic treatment and developed no symptoms.

By Order in Council No. 3 of 1934 Freetown and the Colony of Sierra Leone were treated as a "rabies infected area," and a muzzling order was brought in whereby all dogs at large had to carry muzzles. Later in the year the discovery of yet another case of canine rabies led to even more stringent measures being imposed. By Order in Council No. 12 of 1934 all dogs found at large unmuzzled whether under control or not were liable to be seized and destroyed. In this manner 990 dogs were caught and destroyed by CO. gas. No further human case occurred, although two Europeans suspected of having been in intimate contact with a "mad" dog received a full course of anti-rabic treatment; they did not develop any symptoms.

#### (c) HELMINTHIC DISEASES.

The following comparative table for the years 1933 and 1934 shows the numbers of cases treated at the various Government institutions in these years:—

Disease.	1933.	1934.
Ascariasis ..	4,306	5,546
Ankylostomiasis ..	131	209
Schistosomiasis ...	74	89
Taeniasis ...	314	262

During the year ascariasis, ankylostomiasis and schistosomiasis accounted for 1 fatal case each.

Ascariasis is everywhere common, but ankylostomiasis and schistosomiasis are most prevalent in the Protectorate where the methods of night soil disposal are more primitive, and where the water supplies are much more liable to faecal contamination as it is by no means an uncommon experience to find clothes washing, personal ablutions (and therefore almost certainly defaecation) taking place at the river site from which water for drinking purposes is taken.

The preventive measures for the reduction of these infestations are thus obvious, and indeed are being taken in all towns where a medical or sanitary nucleus exists. Separate places for washing and for drinking supplies are pointed out and prepared and latrines are being erected adjacent to the washing sites to prevent contamination of the water.

*Teniasis.*—During the year 262 cases occurred as compared with 306 in 1933. No deaths were recorded. The greater proportion of these cases occurred in the Protectorate where the system of meat inspection is not so efficient as in Freetown, and where in many cases, i.e. in the remote villages, no inspection is possible. Most of the infestations are by *Taenia Solium*.

## 2—GENERAL MEASURES OF SANITATION.

*Night Soil Disposal.*—In Freetown this remains the same as in former years, viz. mostly by private cesspits for the general African population; there are over 5,000 cesspits in Freetown. A few of the better class Africans have private pan latrines as also have all the Commercial Firms in the town. Government Offices and all Government residents both in Freetown and at Hill Station are serviced by pan latrines which are emptied daily either into Otway fly protected pits as in the case at Hill Station, or directly into the sea as is done in respect of Freetown.

Cesspits receive the regular attention of the Health Department; they are oiled when necessary. They cause but little nuisance, the main objection being their proximity to dwelling-houses and kitchens.

Fourteen Public latrines containing 293 pans supply the daily needs of the public. These structures are kept in good repair by the Public Works Department and are serviced daily by the Health Department. A supply of chlorinated lime is placed in every fresh pan; this in a great measure reduces the nuisance from mal-odours and to a certain degree disinfects the contents.

In the Protectorate, the use of private or public pit latrines is universal. The soil is naturally porous, and if the latrines are properly sited they never become water-logged. The main nuisance is from flies which infest and breed in almost every latrine. Much of this nuisance is due to faulty construction which in a great measure is occasioned by the poor materials at the disposal of the native. In 1934 an experiment was made with an old ship's plate in which "squatting holes" had been cut. This was supported over the trench by means of short lengths of old steel rails. This has provided a clean sanitary squatting top and, owing to its thinness, has removed the chief cause of fly breeding, viz. the faecally contaminated sides of thick coping which is necessary when the "top" is made of mud. After being a year in use this pit is almost flyless; the pit has proved a success, and it is hoped that the system will gradually extend throughout the Protectorate.

*Refuse Disposal.*—In Freetown the system now in use for three years still proves satisfactory and has been the means of great economy. The system was fully detailed in the Annual Report of 1932 and is again briefly outlined in the extract of the Medical Officer of Health's Report. Approximately 13,000 tons of refuse were handled in 1934. A new 2-ton Bedford lorry was commissioned late in the year. The sanitary lorry fleet still contains two of the original Morris lorries, now in their ninth year of service. These are now obsolete, descrepit, often off the road for repairs and are not worth what they cost in replacing spare parts and in loss of efficiency. New lorries will in all probability be necessary in 1935.

In Bonthe, the scheme of land reclamation by dumping refuse into the lagoon still continues without causing nuisance.

In non-sanitized Protectorate towns and villages refuse is merely deposited in the surrounding bush or left to rot "in situ." In all Health areas and in places possessing a medical or sanitary nucleus, and in those areas visited by members of the Health Department, Otway type incinerators and drying sheds have been, or are being constructed. These serve well enough, and during 1934 it was found possible in many towns to allocate labour, paid from the Mining Benefit Trust Fund, to attend to these structures.

*Drainage and other Sanitary Improvements.*—A list of the permanent drainage carried out in 1934 by the Public Works Department in Freetown is given below:—

Elk Street	...	...	...	...	...	83	lineal feet
Wilson Street	...	...	...	...	318	„	„
Hope Street	...	...	...	...	228	„	„
Adams Street	...	...	...	...	536	„	„
Owen Street	...	...	...	...	316	„	„
Sackville Lane	...	...	...	...	102	„	„
Peters Street	...	...	...	...	40	„	„
Alcock Street	...	...	...	...	110	„	„
Truscott Street	...	...	...	...	102	„	„
Regent Road	...	...	...	...	2,531	„	„
Savage Square	...	...	...	...	3,390	„	„

*Howe Street*.—14" concrete channels were laid from Westmoreland Street to Garrison Street.

*Regent Road*.—The stream bed opposite Truscott Street was cleaned out for a distance of 30 yards, and paved and walled in masonry.

*Moore's Brook*.—An extension was built to the outfall to carry the drainage further seawards as the existing outfall tended to form mosquito-breeding pools.

*Hagan Street*.—Minor repairs were effected to the outfall.

*Bolling Street*.—A soakaway pit was constructed to deal with waste water from the stand-pipe, formerly a stagnant pool was always found at this point.

*Upper Little East Street*.—14" concrete channels were laid to both sides of this road replacing the former laterite drain which was usually partially choked with refuse.

*Sanders Brook Canal*.—This was extended from near Dundas Street where work concluded in 1932 to a point north-east of the Public Works Department yard—a length of approximately 830 feet. Three reinforced concrete road bridges were constructed, at Point Street, Dundas Street and Pademba Road. The canal was built in English pressed Brown Engineering Bricks to a width of 7' 6" and an average depth of approximately 2' 6" according to gradient, the depth being exclusive of a small invert designed to deal with the dry season flow.

*Street Drainage*.—The surface water drainage to Dundas Street was completed, approximately 1,400 feet of concrete channels being laid. A short section of the street from Pademba Road was coated with British Standard Specification Road Tar No. 2.

In the Protectorate drainage is carried out by ill-graded earth ditches, which serve their purpose well enough in the height of the wet season but are a source of nuisance when precipitation is slight and insufficient to ensure scouring of the numerous potholes which gradual erosion forms in the line of the ditches.

During the year a commencement was made on the drainage of the swamp which largely encircles the area at Bo. By this means it is hoped greatly to reduce the incidence of mosquitoes and therefore of malaria in that important town which is the largest station on the main railway line.

The year 1934 saw a great extension of the mining activities in the Protectorate. This, though welcome in its financial aspect, has led to the establishment of insanitary conditions in various places, owing to the agglomeration of large numbers of labourers at the main foci of activities. Our Protectorate health legislation enables us only in part to call for the necessary sanitary measures to be taken, but with the passing of the Labour Code in November, 1934, an extra instrument has been placed at our disposal, and it is hoped that in 1935 many improvements will be effected in mining areas, while a more firm control on the land adjacent to such areas will be possible.

During the year sanitary inspections of all the health areas along the southern line were made by the Assistant Director of Health Service, and subsequently the Chief Sanitary Superintendent carried out in some of those areas a few of the recommendations which had been made; these included the sinking of wells, construction of latrines and incinerators, the fly-proofing of meat markets, the felling and clearance of unnecessary trees in two health areas. In addition the Senior Health Officer commenced an inspectional visit of the gold mining camps in the Northern Province, while the Chief Sanitary Superintendent proceeded to Yengema, the Headquarters of Consolidated African Selection Trust Diamond Company, to clean up and replan the native village which had expanded from a village of a few hundred people to a town of over 3,000 inhabitants.

#### WATER SUPPLIES.

The position in respect of Freetown is detailed below in the Waterworks Engineer's Report:

The Works were maintained at the usual standard of efficiency during the year, house to house inspection of services regularly carried on, and all steps taken to reduce waste to a minimum.

*Consumption*.—The total consumption of water for all purposes during the year was 187,857,900 gallons as against 180,379,000 the previous year—an increase of 7,478,000 gallons, and an average daily consumption of 514,677 gallons. Supplies to Shipping and trade and other metered supplies amounted to 3,633,710 and 2,378,100 gallons respectively, as against 2,557,670 and 4,469,000 gallons respectively, the previous year. Purely domestic consumption was 181,845,190 as

against 173,352,330 for the previous year, and the average daily consumption, 498,205 gallons as against 494,189 gallons for the previous year. The maximum daily consumption was 672,000 gallons on the 3rd of February and the minimum, 226,000 on the 21st of May, on which day the supply was turned on for only four hours.

*Private Services.*—27 new private services were laid during the year. There were at the close of the year 495 private services with 1,092 taps; besides 88 services with 413 taps to Colonial and Municipal Government buildings.

*Public Standposts.*—2 new public standposts were erected during the year, one near the southern end of Bathurst Street, and the other at White Street, Brookfields. These bring up the total number of public standposts to 240.

*Distribution Mains.*—The following extensions of the distributing mains were laid during the year.

- (a) 334 yards of 4" C.I. mains with 4 fire hydrants at Fergusson Street, between Dillet Street and Pademba Road.
- (b) 450 yards of 4" C.I. mains with 6 fire hydrants at Lucas Street, between Savage Square and Patton Street.
- (c) 285 yards of 3" C.I. mains with 1 hydrant at Easton Street, between Lucas Street and Fourah Bay Road.

*Preservative Treatment of Steel Mains, Lumley Valley.*—1,460 yards of the 8 $\frac{1}{2}$ " steel main from the Lumley Valley were scraped and treated with bitumastic solution and enamel. The 6 $\frac{1}{2}$ " steel pumping main, from the Pumping Station to the junction with the 8 $\frac{1}{2}$ " main—about half-a-mile in length—was also similarly treated.

*Pumping Operations.*—Pumping operations were begun on the 22nd of March and were continued until the 1st of June.

*Shortage of Water.*—The shortage of water lasted from the 1st of April to the 1st of June, during which period the city was placed on a restricted supply.

*Question of increasing the Water Supply during the Dry Season.*—The question of increasing the supply of the city during the dry season was referred to the Honourable Director of Public Works, Captain Wilson Browne, after careful consideration of the matter, recommended the abandonment of the proposal to develop a source of supply in the Orogou River Basin, and advised that a scheme should be investigated for the construction of a storage reservoir of about twenty million gallons capacity. He roughly estimated the cost to be between £65,000 and £80,000. I have selected a suitable site at the Rifle Range, Brookfields, about 230 yards east of the rifle butts and at an altitude of about 230 feet above sea level. In view, however, of the present lack of funds to meet this expenditure, Council has decided that the matter be held in abeyance for the present until the financial situation improves.

W. S. COLE,

*Waterworks Engineer.*

In the Protectorate most of the water supplies are derived from rivers or streams when these are available, otherwise recourse is had to wells and to tanks supplied from roof gutters.

Kailahun, Kenema, Bo and Moyamba have small pipe-borne supplies servicing the European resident, the court messengers' lines, hospitals and prisons where these exist. None of these supplies can be considered safe potable waters as they are untreated.

The Paramount Chief at Daru has walled in with cement a spring source of supply which wells up in a glade at the edge of the town. Water is drawn from the cistern by means of taps; the supply can be considered "safe" but it does provide a clear sparkling water uncontaminated by gross filth of any kind and it must be considered as a praiseworthy effort.

Extension of the water supply at Moyamba to supply the native town, and an alternative scheme to the one at present in use at Bo are under consideration, and whenever conditions are favourable chiefs are being advised to sink wells and so avoid the use of the water from the heavily polluted streams from which supplies are at present taken.

#### SCHOOL HYGIENE.

The principles of health and sanitation form part of the curricula of the various schools; it is somewhat anomalous therefore that the sanitary condition of many of the schools, i.e. shortage of or inadequacy of sanitary structures, is deplorable, and the more so in that no real advance can be made until money is more readily available.

The routine medical inspection of schools has had to remain in abeyance since the retrenchment of the Lady Medical Officer in June, 1932; the Medical Officer of Health from time to time, and as his other duties permitted, has examined school children, but the numbers so handled form but a very small proportion of the children attending schools in Freetown.

Routine sanitary inspections are made of schools, especially of the sanitary outbuildings, but as stated above any concrete attempt to obtain satisfactory conditions is at present impossible.

#### LABOUR CONDITIONS.

While agriculture must still remain the main occupation, the increasing amount of mining taking place in the Protectorate is attracting more and more labourers. Some of those companies possessing proved deposits have generally provided suitable housing accommodation and have ensured a continuity of food supplies for their labourers; other companies have not been so worthy of praise, but until the passing of the Labour Code in November, 1934, Government did not possess the legislation adequately to protect the welfare of the native. In 1935 it is hoped to bring pressure to bear on those companies which hitherto have in a measure shirked their responsibilities.

The higher price offered for agricultural produce in general has led to the farmer being much better off, and therefore much better fed and happier than he was in 1933, and it is mostly in Freetown where the conditions of malnutrition are mostly seen; thus the diagnosis of avitaminosis rose from 307 in 1933 to 420 in 1934, most of which were in the Freetown area.

#### HOUSING AND TOWN PLANNING.

As stated in previous years the Health Department does not at present enter into the building activities in Freetown.

Building activities in Freetown are carried out under the Freetown Improvement Ordinance, and in the operation of this Ordinance the Health Department has no say.

A scheme of central control by a body of officers, representatives of the departments naturally concerned in the matter of housing and town planning, is at present under consideration but is not yet on a sufficiently advanced stage for discussion.

In the Protectorate all building operations in health areas are controlled by the medical officers whose approval of design and general lay-out is necessary before any building can be erected.

#### FOOD IN RELATION TO HEALTH AND DISEASE.

In Freetown all cattle and sheep, etc., killed for human consumption are examined before and after slaughter at the Public Abattoir which is the only place at which slaughter is allowed. The following are the figures for 1934.

Bullocks	...	...	...	...	...	4,460
Sheep	...	...	...	...	...	457
Goats	...	...	...	...	...	599
Pigs	...	...	...	...	...	139

and the following carcases or portions thereof were seized during the year:—

Anthrax	3 bullocks
Cysticercus bovis	18 bullocks
Angioma	237 lb. liver
Abscess	193 lb. liver
Liver fluke	418 lb. liver

In addition all stores are regularly inspected in respect of the food offered for sale. The subjoined table gives the articles seized during the year:—

71 tins Redgate Ham	1 tin Asparagus
2 lb. Boiled Ham	6 tins Herrings
6 dozen Eggs	3 lb. Mutton
6 tins M.M. Pies	2 tins Hot Pot
3 lb. Pudding	1 tin Irish Stew
7 tins Pudding	2 tins Gooseberries
4 lb. Dripping	4 „ Sardines
24 „ Sausages	2 „ Apricots
18 „ Lamb	3 „ Salmon
3 „ Lamb Chops	19 „ Peaches
1 case Fresh Chops	1 tin "My Lady" Apples
6 tins Sheep's Kidneys	1 „ Lobster
42 lb. Bacon	1 „ Carrots
18 „ Beef	2 tins Pears
½ „ Mushrooms	2 „ Morton's Figs
1 tin Turnips	3 bags Ginger
4 tins Peas	151 tins Cheese
1 tin Pine Apples	3 „ Soup
7 Grape Fruits	4 tierces Pigs Feet
	1 tierce Pigs Heads

Markets, bakeries, mineral water factories and tanneries were regularly inspected throughout the year.

#### B.—MEASURES TAKEN TO SPREAD THE KNOWLEDGE OF HYGIENE AND SANITATION.

As previously stated, the teaching of hygiene forms part of the curricula of schools, and must form an essential part before any grant-in-aid may be claimed. Sanitary Inspectors, health visitors and midwives impart practical lessons in their own spheres of work when on duty, while Health Week with its intensified sanitary effort, propaganda by means of posters, pamphlets, lectures and demonstrations greatly aid in the dissemination of sanitary knowledge.

Health Week was held in March this year to ensure good weather and ended with the customary Baby Show which was attended by over 600 babies, and was as popular as ever.

#### C.—TRAINING OF SANITARY PERSONNEL.

The absence of recruiting rendered necessary by the continued financial depression, has also resulted in the closing down of the routine instruction of young sanitary learners. Nevertheless, "refresher" lectures are given to the staff, who have all had their prescribed course of training; test examinations are to be held in July and December of every year. It is now the practice of this department to bring into Freetown all inspectors who have been stationed for any length of time in the Protectorate so that their knowledge of sanitation and its application may be "brushed up."

#### V—Port Health Work and Administration.

Improving financial conditions resulted in a larger number of ships calling at Freetown during the year, when 734 ships entered the Port as compared with 648 in 1933. The Port was not in quarantine during the year. Yellow fever was notified from nearly all the West African colonies during the year, and French Senegal was infected with plague; strict precautions were taken to prevent the entrance of these diseases through the Port. Freetown is the main Port at which "Kroobays" are taken on to work the ships down the Coast; they are again disembarked when the ships call on the homeward run. The following figures are therefore of interest:—

Kroobays medically examined	...	...	...	31,301
Deck passengers medically examined	...	...	...	2,142
Kroobays disinfested	...	...	...	3,731
Deck passengers disinfested	...	...	...	738
Vaccinations:				
Kroobays	...	...	...	2,016
Deck passengers	...	...	...	566

The Medical Officer of Health is also the Port Health Officer and boards all ships arriving between the hours of 6 a.m. and 6 p.m. and after the latter hour ships are boarded up to 10 p.m. at the request of the Agents and on payment of a moderate fee, 50 per cent. of which accrues to Government.

The Port is provided with a Sanitary Station which includes baths, a waiting room, inspection room and a Washington Lyon high pressure steam disinfector; there is also a suitably isolated quarantine station which adequately deals, at a reasonable cost, with all immigrants for whom a period of "observation" is considered necessary.

J. A. A. DUNCAN,  
*Assistant Director of Health Service.*

## VI—Maternity and Child Welfare.

Maternity and Child Welfare work has again maintained good progress throughout the year in spite of the accommodation being inadequate. The Infant Welfare Centre was moved from Campbell Street to premises in Oxford Street, which is more central, and there has been an increase of attendances of, roughly, 50 per cent. Details of the maternity, ante-natal and post-natal clinics and Infant Welfare will be found in Appendices B, C and D. Whilst infant mortality remains about the same level, there is a regrettable rise in maternal mortality, namely from 4 in 1933 to 14 in 1934. This increase is probably due to the larger number of women attending the clinics.

The Maternity and Child Welfare work of the Princess Christian Mission Hospital has shown satisfactory progress during the year.

## VII—Hospitals and Dispensaries.

(a) *Connaught Hospital.*—The work of the Connaught Hospital has again maintained a very satisfactory standard and there has been a marked increase in the number of cases treated at this Institution during the year under review. The surgical work of the hospital has again been well maintained. The accommodation for maternity has proved inadequate. 501 cases were admitted which shows an increase of 119 cases. Steps are being taken to increase the accommodation. It will be seen from the table of expenditure that the rate per diem per patient at the Connaught Hospital has been reduced from 1/1d. in 1933 to 9d. in 1934. The decrease is attributed to re-organization and more favourable contracts being obtained.

The following table shows the figures of in-patients and maternity cases admitted to the Connaught Hospital during the past ten years:—

Year.	Total In-patients.	Maternity In-patients.	Remarks.
1925	1,860	214	
1926	1,867	251	
1927	2,046	301	
1928	1,945	311	
1929	2,228	353	
1930	2,383	363	
1931	2,335	357	New surgical block—two wards of fourteen beds and four cubicles.
1932	2,628	344	New children's ward—ten beds and cubicle.
1933	2,268	382	
1934	2,464	501	

The following table gives the comparative figures of out-patient attendances at the Connaught Hospital during the past ten years:—

—	1925.	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.
New cases...	14,106	13,834	14,780	13,864	14,265	14,276	10,583	12,019	17,313	17,155
Subsequent attendances	22,335	32,176	34,780	47,040	59,441	41,722	50,059	55,198	50,147	105,511
Total ...	36,441	46,010	49,560	60,904	73,706	55,998	60,642	67,217	67,460	122,666

(b) *European Hospital*.—During the year 99 cases were admitted to the Nursing Home; there is therefore a decrease of 13 cases from the previous year. Of this number, 41 were Government officials and 58 non-Government officials. There were no deaths during the year.

(c) *Other Hospitals*.—There are two permanent Protectorate Type Hospitals, one situated at Makeni and the other at Bo, in the Northern and Southern Provinces respectively. The figures of attendances are as follows:—

				Makeni	Bo.
In-patients	...	...	...	204	410
Out-patients:					
New cases	...	...	...	1,919	2,379
Subsequent attendances		...	...	8,620	16,046

The work of these two hospitals has continued in a most satisfactory manner and has been much appreciated by the people of the Protectorate.

(d) *Mission Hospitals subsidized by Government*.—During the year the Government has subsidized three Mission hospitals in the Protectorate and has given a grant-in-aid to the Princess Christian Mission Hospital in Freetown. Owing to the urgent call of economy it is regretted that the subsidies had to be decreased. The work of the Missions has increased both in numbers and value to the community.

(e) *Government Dispensaries*.—There are eight dispensaries established in the Colony and ten in the Protectorate. Senior dispensers, assisted by hospital porters, are placed in charge. These dispensaries are inspected once or twice a month and the medical officers of the districts administer simple remedies to the local population.

## VIII—Meteorology.

*Rainfall*.—The rainfall for the year 1934 at Freetown (Tower Hill) was 172.96 inches, as compared with 145.13 inches in 1933, the highest for thirty-one years.

July was the heaviest month with 53.38 inches, and the highest rainfall in any one day was 13.35 inches, on the 5th of July.

The lowest temperature recorded on the Tower Hill Observatory was 62 degrees in the shade on the 26th of January.

The highest temperature was 92 degrees in the shade on the 25th of January.

The highest minimum was 78 degrees on the 7th, 10th and 13th of June.

The lowest maximum was 76 degrees on the 7th and 28th of August.

The rainfall per month is as follows:—

January	...	...	...	00.006	
February	...	...	...	00.07	inches
March	...	...	...	00.06	"
April	...	...	...	02.09	"
May	...	...	...	02.64	"
June	...	...	...	17.95	"
July	...	...	...	53.38	"
August	...	...	...	47.63	"
September	...	...	...	31.85	"
October	...	...	...	12.67	"
November	...	...	...	04.35	"
December	...	...	...	00.27	"
					172.96 inches

Hill Station had a rainfall of 152.14 inches for the year which compares with 170.32 in 1933. The heaviest month was July with 48.71 inches and the highest in any one day was 8.67 on the 5th of July. This is the first time since 1921 that the rainfall at Freetown has exceeded that at Hill Station.

## IX—Scientific.

## CONNAUGHT HOSPITAL LABORATORY REPORT.

TABLE I.

Materials Examined.	African.				European.			
	1933.	1934.	Increase.	Decrease.	1933.	1934.	Increase.	Decrease.
Blood slides	...	3,108	3,320	212	...	380	217	...
Blood counts	...	165	147	...	18	50	17	...
Kahn test	...	270	239	...	31	6	8	2
Widal reaction	...	20	29	9	...	3	1	...
Van den Bergh	...	3	4	1	...	...	...	...
Faeces	...	2,267	2,194	...	73	166	44	...
Urines	...	2,402	2,285	...	117	321	72	...
Sputum	...	369	416	47	...	30	10	20
V. D. Smears	...	757	445	...	312	55	43	12
Leprosy smears	...	57	72	15	...	...	...	...
Throat smears	...	3	4	1	...	...	...	...
Cerebro-spinal fluid	...	3	4	1	...	...	...	...
Microscopical sections	...	15	11	...	4	...	...	...
Post-mortems	...	75	81	6	...	1	...	...
Total	...	9,514	9,251	292	555	1,012	412	2
								601

## ANIMAL SMEARS.

Rat smears	...	156	439	283	...	...	...	...
Cattle smears	...	60	12	...	48	...	...	...
Total	...	216	451	...	235	...	...	...
GRAND TOTAL	...	9,720	9,702	575	790	...	...	...

TABLE II.

## 1—BLOOD EXAMINATION.

Total blood slides	...	...	3,537
Africans	...	3,320	
Europeans	...	217	

	African.	European.
Subtertian parasites	726	63
Percentage positive	21.8	29
Quartan parasites	199	15
Percentage positive	5.9	0.6
Benign tertian parasites	8	—
Percentage positive	0.2	—
Microfilaria	1	—
Trypanosome gainbiense	2	—

## Blood Counts:—

Total examination	...	...	264
Africans	...	147	
Europeans	...	17	

	African.	European.
Total red count	33	—
Total white count	55	—
Differential count	59	—

## 2—BLOOD SERUM EXAMINATION.

(a) *Kahn Test.*

## African.

Total examination	...	...	239	8
Positive	...	...	52	2

(b) *Widal Reaction.*

## African.

## European.

Total examination	...	...	29	1
Positive to B. typhosus A.	...	...	5	—
„ „ B. paratyphosus A.	...	...	—	—
„ „ B. „ B.	...	...	1	1
„ „ B. „ C.	...	...	—	1

(c) *Van der Bergh's Reaction.*

## African.

## European.

Total examination	...	...	4	—
Positive	...	...	2	—

## 3—FÆCES EXAMINATION.

## African.

## European.

Total examination	...	...	2,194	44
Ankylostome ova	...	...	467	—
Ascaris ova	...	...	328	—
Trichuris ova	...	...	188	1
Tænia ova	...	...	10	—
E. histolytica	...	...	26	—
Giardia	...	...	—	—
Entameba coli	...	...	6	—
E. histolytica cysts	...	...	4	—
Strongyloids larvæ	...	...	170	—

## 4—URINE EXAMINATION.

## African.

## European.

Total examination	...	...	2,285	72
Albumen	...	...	614	17
Sugar	...	...	34	—
Casts	...	...	14	1
Blood	...	...	24	8
Pus	...	...	38	9
Acetone	...	...	27	—
Diacetic acid	...	...	—	—
Urea estimation	...	...	10	1
Schistosome ova	...	...	3	—

## 5—SPUTUM EXAMINATION.

## African.

## European.

Total examination	...	...	416	10
Tubercle bacilli present	...	...	113	—

## 6—VENEREAL DISEASE SMEARS.

## African.

## European.

Total examination	...	...	445	43
Sp. pallida	...	...	—	—
Gonococcus	...	...	265	14

## 7—LEPROSY SMEARS.

## African.

## European.

Total examination	...	...	72	—
Positive	...	...	18	—

## 8—THROAT SMEARS.

Four throat smears were examined.

## 9—CEREBRO-SPINAL FLUID.

Four were examined.

## 10—SMEARS FROM RATS.

439 smears were examined and no evidence of plague infection found.

## 11—SMEARS FROM CATTLE.

Total examination	...	...	...	...	...	...	12
Anthrax bacilli	...	...	...	...	...	...	4
Trypanosomiasis	...	...	...	...	...	...	1

TABLE III.

## MICROSCOPIC SECTIONS.

3 Sarcoma  
 1 Seirrhous cancer of breast  
 1 Squamous cell carcinoma  
 1 Chronic mastitis  
 1 Adenoma  
 1 Endothelioma  
 1 Miliary tuberculosis of lungs  
 1 Tuberculus omentum  
 1 Chronic endometritis.

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## POST-MORTEM EXAMINATIONS.

Lobar pneumonia	...	...	...	...	...	...	16
Broncho-pneumonia	...	...	...	...	...	...	1
Aortic aneurysm	...	...	...	...	...	...	5
Pulmonary tuberculosis	...	...	...	...	...	...	13
Cerebral haemorrhage	...	...	...	...	...	...	2
Valvular disease of the heart	...	...	...	...	...	...	2
Cerebral Abscess	...	...	...	...	...	...	1
Sub-acute nephritis	...	...	...	...	...	...	6
Peritonitis	...	...	...	...	...	...	1
Cystic degeneration of kidney	...	...	...	...	...	...	3
Asphyxia—drowning	...	...	...	...	...	...	4
Pyæmia	...	...	...	...	...	...	4
Gastro-enteritis	...	...	...	...	...	...	3
Acute pericarditis	...	...	...	...	...	...	1
Acute pulmonary œdema	...	...	...	...	...	...	1
Pneumo-coccal meningitis	...	...	...	...	...	...	1
Rabies	...	...	...	...	...	...	1
Sickle cell anaemia	...	...	...	...	...	...	1
Salpingitis	...	...	...	...	...	...	1
Acute appendicitis	...	...	...	...	...	...	1
Cerebral malaria	...	...	...	...	...	...	1
Accidents:—							
Internal haemorrhage—	Rupture of spleen	...	...	...	...	...	1
	Rupture of urinary bladder	...	...	...	...	...	1
	Rupture of liver	...	...	...	...	...	1
Death from lightning	...	...	...	...	...	...	1
Death from burns	...	...	...	...	...	...	1
Basal fracture	...	...	...	...	...	...	1
Myocarditis	...	...	...	...	...	...	3
Dysentery	...	...	...	...	...	...	1
Dysentery amœbic	...	...	...	...	...	...	1
Typhoid fever—perforation	...	...	...	...	...	...	1

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E. A. RENNER,  
*Pathologist.*

21st January, 1935.

## Tables.

## I—STAFF.

## MEDICAL STAFF.

Office.	Name.	Absent on Leave						Remarks.
		From			To			
Director of Medical and Sanitary Services ...	P. D. Oakley ...		—			—		
Surgical Specialist ...	Q. Stewart ...	7	11	34		—		
Senior Medical Officer ...	E. S. Walls ...	—			16	2	34	
„ „ „	C. B. Jennings ...	27	6	34	23	11	34	
Medical Officer ...	A. W. Lewis ...	16	5	34	9	11	34	
„ „ „	W. Allan ...	12	7	34	7	12	34	Acting M.O.H.
„ „ „	R. B. Henderson ...	—			—			
„ „ „	H. R. F. Tweedy ...	—			—			
„ „ „	H. Peaston ...	—			—			
„ „ „	A. Catheart ...	—			27	4	34	
„ „ „	W. A. Burnett ...	24	10	34		—		
„ „ „	A. J. Johnson ...	25	1	34	23	6	34	
„ „ „	A. C. Dalzell ...	12	6	34	25	10	34	Resigned 27-10-34.
„ „ „	W. J. Laird ...	—			—			
Senior African Medical Officer ...	E. J. Wright ...	30	5	34	27	10	34	
Pathologist ...	E. A. Renner ...	8	2	34	8	7	34	
African Medical Officer ...	M. C. F. Easmon ...	—			—	—		
„ „ „	E. H. T. Cummings ...	—			26	3	34	
„ „ „	W. B. Hughes ...	4	11	34		—		
„ „ „	W. F. O. Taylor ...	—			—			
„ „ „	M. A. S. Margai ...	8	2	34	7	6	34	

## HEALTH STAFF.

Assistant Director of Health Service ...	J. A. A. Duncan, M.C.	8	3	34	31	8	34	
Senior Health Officer ...	A. B. Monks ...	—			16	2	34	
Medical Officer of Health ...	Vacant	—			—			
Chief Sanitary Superintendent ...	G. V. Herd ...	27	6	34	7	12	34	
Sanitary Superintendent ...	A. E. Wilkinson ...	24	10	34		—		
„ „ „	P. Osment ...	5	4	34	7	9	34	

## NURSING STAFF.

Senior Nursing Sister ...	Miss A. E. Macmaster		—		—	—	34	
„ „ „	Miss I. A. Marr ...	30	5	34	25	7	34	
„ „ „	Miss G. M. Spencer	—			—			
Nursing Sister ...	Miss L. D. S. McPetrie	22	3	34	3	7	34	
„ „ „	Miss N. M. Brown ...	8	8	34	21	12	34	
„ „ „	Miss M. G. Morgan	—			—			Transferred to Nigeria 1-9-34.
„ „ „	Miss H. F. W. Young	22	3	34	3	7	34	
„ „ „	Miss M. C. Jennings	8	8	34	7	12	34	

## AFRICAN MEDICAL SUBORDINATE STAFF.

Office.	Name.	Absent on Leave.						Remarks.
		From			To			
Chief Dispenser ...	M. O. Frazer ...	7	2	34	6	5	34	
Assistant Chief Dispenser ...	P. J. John ...	16	7	34	30	9	34	
Chief Store-keeper ...	K. A. King ...	—	—	—	—	—	—	
Hospital Warden ...	P. Q. A. John ...	—	—	—	—	—	—	
First Class Dispenser	M. P. Neville ...	—	—	—	—	—	—	
"	I. B. Doherty ...	—	—	—	—	—	—	
"	T. M. T. Scott ...	—	—	—	—	—	—	
"	J. C. May ...	21	8	34	20	10	34	
"	S. B. Williams ...	—	—	—	—	—	—	
"	E. W. B. Cole ...	—	—	—	—	—	—	
"	G. C. Heroe ...	—	—	—	—	—	—	
"	E. F. Smith ...	—	—	—	—	—	—	
"	W. D. Hedd ...	30	5	34	22	7	34	
Second Class Dispensers	Ten	—	—	—	—	—	—	
Third Class Dispensers	Fourteen	—	—	—	—	—	—	
Laboratory Assistant	C. H. R. Greene ...	3	1	34	2	2	34	
Male Nurses and Apprentices ...	Thirty-three	—	—	—	—	—	—	
Female Nurses and Probationers ...	Twenty-five	—	—	—	—	—	—	
Midwives ...	Two	—	—	—	—	—	—	

## AFRICAN HEALTH SUBORDINATE STAFF.

Senior Health Visitor	Miss O. T. Metzger	—	—	—	—	—	—	
Health Visitor ...	Mrs. V. S. Macfoy	8	1	34	7	2	34	
" "	Miss A. Macauley	31	3	34	30	4	34	
Second Grade Sanitary Inspector ...	W. E. J. Cerkson ...	13	11	34	—	—	—	
Third Grade Sanitary Inspector ...	D. H. Raschid ...	—	—	—	—	—	—	
Fourth Grade Sanitary Inspectors ...	Six	—	—	—	—	—	—	
Fifth Grade Sanitary Inspectors and Learners	Twenty-nine	—	—	—	—	—	—	

## MEDICAL AND HEALTH CLERICAL STAFF.

Chief Clerk ...	S. G. Randall ...	—	—	—	—	—	—	
Second Grade Clerk ...	C. B. K. Macarthy	—	—	—	—	—	—	
Senior Third Grade Clerks ...	Eight	—	—	—	—	—	—	
Junior Third Grade Clerks ...	Six	—	—	—	—	—	—	

## II—FINANCE.

1934 Estimates—Expenditure.

## MEDICAL.

## Personal Emoluments:

						£
European	...	...	...	...	...	16,275
African	...	...	...	...	...	19,979
Allowances	...	...	...	...	...	804
Total	...	...	...	...	...	£37,058

## Other charges:

						£
Medical supplies and hospital equipment	...	...	...	...	...	3,210
Diets, provisions, etc.	...	...	...	...	...	3,750
Contribution to various associations and subsidies						
to institutions	...	...	...	...	...	2,800
Passages, transport, freight, etc.	...	...	...	...	...	2,380
Other items	...	...	...	...	...	595
Total	...	...	...	...	...	£12,735

## HEALTH.

## Personal Emoluments:

						£
European	...	...	...	...	...	4,706
African	...	...	...	...	...	5,144
Labour	...	...	...	...	...	6,500
Total	...	...	...	...	...	£16,350

## Other charges:

						£
Refuse disposal	...	...	...	...	...	760
Preventive measures	...	...	...	...	...	950
Transport	...	...	...	...	...	1,877
Other items	...	...	...	...	...	145
Total	...	...	...	...	...	£3,732

## Receipts.

						£
Hospital fees	...	...	...	...	...	780
Lunatic hospital fees	...	...	...	...	...	188
Sale of medicines	...	...	...	...	...	868
Total	...	...	...	...	...	£1,836

## III—RETURN OF DISEASES AND DEATHS—EUROPEAN.

Diseases.	Remaining in Hospital at end of 1933.	IN-PATIENTS.				Out- patients.
		Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1934.	
<b>I—EPIDEMIC, ENDEMIC, AND INFECTIOUS DISEASES.</b>						
1. Enteric Group :						
(a) Typhoid fever	...	1	1	2	...	...
5. Malaria :						
(a) Tertian	...	...	...	...	...	3
(b) Quartan	...	...	5	5	...	6
(c) Aestivo-autumnal	...	...	33	33	...	27
(d) Cachexia	...	...	...	...	...	...
Unclassified	...	...	...	...	...	27
(e) Blackwater	...	...	1	1	...	...
7. Measles	...	...	1	1	...	...
16. Dysentery :						
(a) Amœbic	...	...	1	1	...	...
(b) Bacillary	...	...	1	1	...	...
(c) Undefined or due to other causes	...	...	...	...	...	3
31. Tuberculosis, pulmonary and laryngeal	...	...	1	1	...	...
38. Syphilis :						
(a) Primary	...	...	2	2	...	1
(e) Period not indicated	...	...	...	...	...	2
40. A.—Gonorrhœa and its complications	...	...	...	...	...	4
<b>II—GENERAL DISEASES NOT MENTIONED ABOVE.</b>						
52. Chronic rheumatism	...	...	...	...	...	14
58. Anaemia :						
(b) Other anaemias and chlorosis	...	...	...	...	...	8
65. Leukæmia :						
(a) Leukæmia	...	...	1	1	...	...
69. Other general diseases	...	...	...	...	...	7
<b>III—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.</b>						
75. Paralysis :						
(a) Hemiplegia	...	...	1	1	...	...
77. Other forms of mental alienation	1	1	2	...	...	...
78. Epilepsy	...	...	1	1	...	1
82. B.—Neuritis	...	...	1	1	...	...
C.—Neurasthenia	...	...	1	1	...	...
Carried forward	...	2	52	54	...	3
						103

The form shows in the main the arrangement of diseases in the International Nomenclature, 1921 Edition. To save space the unimportant diseases of any class can be grouped in their places as "Other Diseases" of the class.

EUROPEAN—*continued.*

Diseases.	IN-PATIENTS.					Out-patients.
	Remaining in Hospital at end of 1933.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1934.	
Brought forward	2	52	54	...	3	103
<b>III—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES—<i>continued.</i></b>						
84. Other affections of the nervous system, such as <i>paralysis agitans</i>	...	...	...	...	...	4
85. Affections of the Organs of Vision :						
(a) Diseases of the eye	...	2	2	...	...	3
(b) Conjunctivitis	...	1	1	...	...	4
(e) Other affections of the eye	...	...	...	...	...	11
86. Affections of the ear or mastoid sinus	...	...	...	...	...	21
<b>IV—AFFECTIONS OF THE CIRCULATORY SYSTEM.</b>						
90. Other Diseases of the Heart :						
(a) Mitral	...	...	...	...	...	1
93. Diseases of the Veins :						
Hæmorrhoids	...	...	...	...	...	3
Varicose veins	...	...	...	...	...	3
Phlebitis	...	...	1	1	...	...
94. Diseases of the Lymphatic System :						
Lymphangitis	...	1	1	...	...	...
Lymphadenitis, <i>bubo</i> (non-specific)	...	4	4	...	...	1
<b>V—AFFECTIONS OF THE RESPIRATORY SYSTEM.</b>						
97. Diseases of the Nasal Passages :						
Coryza	...	1	1	...	...	15
98. Affections of the Larynx :						
Laryngitis	...	...	...	...	...	3
99. Bronchitis :						
(a) Acute	...	...	...	...	...	5
(b) Chronic	...	...	...	...	...	2
101. Pneumonia :						
(a) Lobar	...	1	1	...	...	...
102. Pleurisy, empyema	...	1	1	2	...	...
104. Abscess of the lungs	...	1	1	...	...	...
105. Asthma	...	...	...	...	...	2
Carried forward	3	65	68	...	3	182

Diseases.	IN-PATIENTS.					Out-patients.
	Remaining in Hospital at end of 1933.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1934.	
Brought forward	3	65	68	...	3	182
<b>VI—DISEASES OF THE DIGESTIVE SYSTEM.</b>						
108. A.—Diseases of Teeth or Gums : Caries, pyorrhœa, etc.	...	...	...	...	...	3
B.—Other Affections of the Mouth : Stomatitis ...	...	...	...	...	...	1
109. Affections of the Pharynx or Tonsils : Tonsilitis ...	...	3	3	...	...	9
Pharyngitis ...	...	...	...	...	...	3
112. Other Affections of the Stomach : Gastritis ...	...	...	...	...	...	8
Dyspepsia, etc. ...	1	...	1	...	...	24
114. Diarrhoea and Enteritis : Two years and over ...	...	1	1	...	...	26
Colitis ...	...	...	...	...	...	1
115. Ankylostomiasis ...	...	...	...	...	...	2
116. Diseases due to Intestinal Parasites : (a) Cestoda (taenia) ...	...	1	1	...	...	3
Ascaris ...	...	...	...	...	...	4
117. Appendicitis ...	6	6	6	...	...	4
119. A.—Affections of the Anus, fistula, etc. ...	...	...	...	...	...	1
B.—Other Affections of the Intestines : Constipation ...	...	1	1	...	...	12
124. Other Affections of the Liver : Jaundice ...	...	1	1	...	...	1
127. Other Affections of the digestive system ...	...	...	...	...	...	2
<b>VII—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL).</b>						
129. Chronic ...	...	...	...	...	...	1
131. Other affections of the kidneys : Pyelitis, etc. ...	...	...	...	...	...	1
132. Urinary calculus ...	...	2	2	...	...	...
133. Diseases of the Bladder : Cystitis ...	...	...	...	...	...	4
134. Diseases of the Urethra : (a) Stricture ...	...	...	...	...	...	1
(b) Other ...	...	...	...	...	...	8
Carried forward	4	80	84	...	3	301

EUROPEAN—*continued.*

Diseases.	IN-PATIENTS.					Out-patients.
	Remaining in Hospital at end of 1933.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1934.	
Brought forward ... ...	4	80	84	...	3	301
<b>VII—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL), <i>continued.</i></b>						
135. Diseases of the Prostate :						
Prostatitis ... ...	...	...	...	...	...	3
136. Diseases (non-venereal) of the Genital Organs of Man :						
Orchitis ... ...	...	...	...	...	...	1
Hydrocele ... ...	...	...	...	...	...	2
Other diseases of the male generative organs ... ...	...	...	...	...	...	2
140. Uterine haemorrhage (non-puerperal) ... ...	...	...	...	...	...	1
141. B.—Other Affections of the Female Genital Organs :						
Dysmenorrhœa ... ...	...	...	...	...	...	1
<b>VIII—PUERPERAL STATE.</b>						
143. B.—Accidents of Pregnancy :						
(c) Other accidents of pregnancy	...	...	...	...	...	1
<b>IX—AFFECTIONS OF THE SKIN AND CELLULAR TISSUES.</b>						
152. Boil ... ...	...	2	2	...	...	13
Carbuncle ... ...	...	2	2	...	...	3
153. Abscess ... ...	...	1	1	...	...	2
Whitlow ... ...	...	...	...	...	...	2
Cellulitis ... ...	...	3	3	...	...	1
154. A.—Tinea ...	...	...	...	...	...	9
B.—Scabies ...	...	...	...	...	...	2
155. Other diseases of the skin ...	...	...	...	...	...	16
(a) Erythema ... ...	...	...	...	...	...	1
(b) Urticaria ... ...	...	...	...	...	...	5
(c) Eczema ... ...	...	...	...	...	...	5
(d) Herpes ... ...	...	...	...	...	...	2
(g) Myiasis ... ...	...	...	...	...	...	1
(h) Chigoes ... ...	...	...	...	...	...	3
(j) Ulcer ... ...	...	...	...	...	...	12
<b>X—DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS).</b>						
157. Diseases of Joints :						
Arthritis ... ...	...	2	2	...	...	1
Synovitis ... ...	...	1	1	...	...	1
158. Other diseases of bones or organs of locomotion ... ...	...	...	...	...	...	1
Carried forward ...	4	91	95	...	3	402

Diseases.	Remaining in Hospital at end of 1933.	IN-PATIENTS.				Remaining in Hospital at end of 1934	Out- patients.
		Total Admission.	Total Cases treated.	Deaths.			
Brought forward ...	4	91	95	...		3	402
<b>XIV—AFFECTIONS PRODUCED BY EXTERNAL CAUSES.</b>							
176. Attacks of Poisonous Animals :							
Snake bite ...	...	...	...	...	...	...	1
Insect bite ...	...	...	...	...	...	...	3
180. Suffocation (accidental) ...	...	...	...	...	...	...	1
184. Wounds (by cutting or stabbing instruments) ...	...	...	...	...	...	...	1
185. Wounds (by fall) ...	...	...	...	...	...	...	1
189. Injuries inflicted by animals, bites, kicks, etc. ...	...	...	...	...	...	...	4
194. Exposure to Heat :							
Sunstroke ...	...	1	1	...	...	...	...
201. B.—Sprain ...	...	...	...	...	...	...	5
C.—Fracture ...	...	1	1	...	...	...	3
202. Other external injuries ...	...	3	3	...	...	...	29
<b>XV—ILL-DEFINED DISEASES.</b>							
205. A.—Diseases not already specified or Ill-defined :							
Asthenia ...	...	...	...	...	...	...	6
Hyper-pyrexia ...	...	...	...	...	...	...	2
Pyrexia of uncertain origin ...	...	3	3	...	...	...	5
No appreciable diseases ...	...	...	...	...	...	...	2
Total ...	4	99	103	...	3	465	

## IV—RETURN OF DISEASES AND DEATHS—AFRICAN.

## IN-PATIENTS.

Diseases.	Remaining in Hospital at end of 1933.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1934.	Out- patients.
<b>1—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES.</b>						
1. Enteric Group :						
(a) Typhoid fever ...	...	1	1	1	...	...
(c) Paratyphoid B. ...	...	1	1	...	...	...
(d) Type not defined ...	...	2	2	...	...	...
5. Malaria :						
(a) Tertian ...	1	1	2	...	...	21
(b) Quartan ...	27	27	27	...	...	81
(c) Aestivo-autumnal ...	2	133	135	1	2	657
(d) Cachexia ...	3	3	3	...	...	10
(e) Unclassified ...	1	136	137	1	1	5,021
(f) Blackwater ...	...	...	...	...	...	1
6. Smallpox ...	...	54	54	9	7	494
Alastrim ...	...	...	...	...	...	5
7. Measles ...	...	2	2	1	...	18
9. Whooping cough ...	...	9	9	...	...	198
13. Mumps ...	...	2	2	...	...	14
16. Dysentery :						
(a) Amœbic ...	5	67	72	5	2	153
(c) Undefined or due to other causes ...	21	21	21	1	1	172
20. Leprosy ...	11	5	16	1	13	196
21. Erysipelas ...	...	...	...	...	...	1
22. Acute poliomyelitis ...	...	...	...	...	...	3
25. Other Epidemic Diseases :						
(b) Varicella (chicken-pox) ...	...	250	250	1	1	215
(g) Yaws ...	2	51	53	1	12	7,309
(h) Trypanosomiasis ...	...	1	1	1	...	3
28. Rabies ...	...	1	1	1	...	...
29. Tetanus ...	...	18	18	7	1	10
30. Mycosis ...	1	2	3	...	...	2
31. Tuberculosis, pulmonary and laryngeal	1	57	58	22	5	178
32. Tuberculosis of the meninges or central nervous system ...	...	1	1	1	...	...
33. Tuberculosis of the intestines or peritonem ...	...	4	4	2	...	...
34. Tuberculosis of the vertebral column ...	...	3	3	1	1	4
35. Tuberculosis of bones and joints ...	...	3	3	...	...	...
36. Tuberculosis of other organs :						
(c) Lymphatic system ...	...	...	...	...	...	3
(e) Other organs ...	...	...	...	...	...	3
38. Syphilis :						
(a) Primary ...	...	3	3	...	1	34
(b) Secondary ...	...	2	2	...	...	37
(c) Tertiary ...	2	18	20	...	1	336
(d) Hereditary ...	...	1	1	...	...	7
(e) Period not indicated ...	...	3	3	...	1	28
39. Soft chancre ...	...	12	12	...	...	229
Carried forward ...	26	894	920	57	49	15,143

The form shows in the main the arrangement of diseases in the International Nomenclature, 1921 Edition. To save space the unimportant diseases of any class can be grouped in their places as "Other Diseases" of the class.

Diseases.		Remaining in Hospital at end of 1933.	IN-PATIENTS.				Out- patients.
			Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1934.	
Brought forward	...	26	894	920	57	49	15,143
<b>I—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES—<i>continued.</i></b>							
40.	A.—Gonorrhœa and its complications	2	75	77	...	1	1,941
	B.—Gonorrhœal ophthalmia	...	5	5	...	...	81
	C.—Gonorrhœal arthritis	...	13	13	...	2	67
	D.—Granuloma venereum	...	1	7	8	...	38
41.	Septicæmia	...	3	3	3	...	1
42.	Other infectious diseases	...	3	3	2	...	1
<b>II—GENERAL DISEASES NOT MENTIONED ABOVE.</b>							
43.	Cancer or other malignant tumours of the buccal cavity	...	1	1	...	...	...
44.	Cancer or other malignant tumours of the stomach or liver	...	1	1	1	...	1
46.	Cancer or other malignant tumours of the female genital organs	...	1	1	1	...	4
47.	Cancer or other malignant tumours of the breast	...	2	2	...	...	3
48.	Cancer or other malignant tumours of the skin	1	3	4	...	1	3
49.	Cancer or other malignant tumours of organs not specified	...	11	11	3	...	9
50.	Tumours, non-malignant	11	47	58	...	2	160
51.	Acute rheumatism	...	1	1	...	...	3
52.	Chronic rheumatism	...	7	55	62	1	3
56.	Rickets	...	10	10	3	1	18
57.	Diabetes (not including insipidus)	...	2	2	...	...	3
58.	Anæmia :						
	(a) Pernicious	...	...	...	...	...	3
	(b) Other anæmias and chlorosis	...	8	8	1	...	441
	Avitaminosis	...	1	34	35	2	420
60.	Diseases of the Thyroid Gland :						
	(a) Exophthalmic goitre	...	4	4	1	...	11
	(b) Other diseases of the thyroid gland, myxœdema	...	...	...	...	...	9
61.	Diseases of the para-thyroid glands	...	...	...	...	...	4
64.	Diseases of the spleen	...	1	27	28	5	403
65.	Leukæmia :						
	(a) Leukæmia	...	...	...	...	...	1
66.	Alcoholism	...	1	1	...	...	...
68.	Chronic poisoning by organic substances (morphia, cocaine, etc.)	...	...	...	...	...	1
69.	Other general diseases	...	7	7	...	...	727
Carried forward		50	1,215	1,265	80	68	27,279

AFRICAN—*continued.*

Diseases.	IN-PATIENTS.					Out-patients.
	Remaining in Hospital at end of 1933.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1934.	
Brought forward ...	50	1,215	1,265	80	68	27,279
<b>III—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.</b>						
71. Meningitis (not including tuberculous meningitis or cerebro-spinal meningitis) ... ... ...	...	4	4	3	1	...
72. Locomotor ataxia ... ...	...	...	...	...	...	11
73. Other affections of the spinal cord ... ...	...	3	3	2	...	2
74. Apoplexy ... ...	...	1	1	1	...	...
(a) Haemorrhage ... ...	...	1	1	...	...	...
(c) Thrombosis ... ...	...	2	2	2	...	...
75. Paralysis :						
(a) Hemiplegia ... ...	5	31	36	4	7	86
(b) Other paralysis ... ...	10	16	26	2	9	48
77. Other forms of mental alienation ...	9	22	31	6	7	7
78. Epilepsy ... ...	...	10	10	...	...	35
79. Eclampsia, convulsions (non-puerperal) 5 years or over ... ...	...	...	...	...	...	1
80. Infantile convulsions ... ...	...	2	2	...	...	16
82. A.—Hysteria ... ...	...	5	5	...	...	7
— B.—Neuritis ... ...	...	5	5	2	...	118
— C.—Neurasthenia ... ...	...	2	2	...	...	37
83. Cerebral haemorrhage ... ...	...	8	8	8	...	...
84. Other affections of the nervous system, such as paralysis agitans ...	...	4	4	1	...	202
85. Affections of the Organs of Vision :						
(a) Diseases of the eye ...	5	12	17	...	7	306
(b) Conjunctivitis ... ...	...	32	32	...	1	804
(c) Trachoma ... ...	...	1	1	...	...	42
(d) Tumours of the eye ... ...	...	...	...	...	...	6
(e) Other affections of the eye ...	...	27	27	...	3	668
86. Affections of the ear or mastoid sinus ...	...	11	11	...	1	892
<b>IV—AFFECTIONS OF THE CIRCULATORY SYSTEM.</b>						
87. Pericarditis ... ...	...	1	1	...	...	...
88. Acute endocarditis, or myocarditis ...	1	2	3	1	1	3
90. Other diseases of the heart ...	...	34	34	9	1	103
(a) Valvular ... ...	2	4	6	1	1	29
Mitral ... ...	1	23	24	8	1	89
Aortic ... ...	...	5	5	...	...	16
(b) Myocarditis ... ...	4	3	7	4	1	48
91. Diseases of the Arteries :						
(a) Aneurism ... ...	...	3	3	2	...	6
(b) Arterio-sclerosis ... ...	...	1	1	...	...	16
(c) Other diseases ... ...	...	2	2	...	...	17
92. Embolism or thrombosis (non-cerebral) ... ...	...	3	3	...	...	...
93. Diseases of the Veins :						
Haemorrhoids ... ...	...	7	7	...	1	83
Varicose veins ... ...	...	2	2	...	...	20
Phlebitis ... ...	...	...	...	...	...	3
Carried forward ...	87	1,504	1,591	136	110	31,000

Diseases.		Remaining in Hospital at end of 1933.	IN-PATIENTS.				Out- patients.
			Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1934.	
Brought forward	...	87	1,504	1,591	136	110	31,000
<b>IV—AFFECTIONS OF THE CIRCULATORY SYSTEM—<i>continued.</i></b>							
94.	Diseases of the Lymphatic System :						
	Lymphangitis	...	3	3	...	...	39
	Lymphadenitis, bubo (non-specific)	1	76	77	...	4	539
95.	Hæmorrhage of undetermined cause	...	11	11	...	...	46
96.	Other affections of the circulatory system	...	6	6	...	...	43
<b>V—AFFECTIONS OF THE RESPIRATORY SYSTEM.</b>							
97.	Diseases of the Nasal Passages :						
	Adenoids	...	3	3	...	...	10
	Polypus	...	...	...	...	...	1
	Rhinitis	...	1	1	...	...	32
	Coryza	...	2	2	...	...	1,013
	Other diseases of the nasal passages	...	...	...	...	...	21
98.	Affections of the Larynx :						
	Laryngitis	...	1	...	1	1	78
99.	Bronehitis :						
	(a) Acute	...	2	57	59	1	6,042
	(b) Chronic	...	1	10	11	...	3,981
100.	Broncho-pneumonia	...	2	41	43	11	2
101.	Pneumonia :						
	(a) Lobar	...	73	73	15	1	24
	(b) Unclassified	...	2	38	40	9	74
102.	Pleurisy, empyema	...	33	33	...	4	102
103.	Congestion of the lungs	...	...	...	...	...	2
105.	Asthma	...	7	7	...	...	189
106.	Pulmonary emphysema	...	...	...	...	...	7
107.	Other affections of the lungs	...	14	14	3	...	568
<b>VI—DISEASES OF THE DIGESTIVE SYSTEM.</b>							
108.	A.—Diseases of Teeth or Gums :						
	Caries, pyorrhœa, etc.	...	9	9	...	...	1,527
	B.—Other Affections of the Mouth :						
	Stomatitis	...	2	2	...	...	354
	Glossitis, etc.	...	2	2	...	...	61
109.	Affections of the Pharynx or Tonsils:						
	Tonsillitis	...	10	10	...	...	368
	Pharyngitis	...	1	1	...	...	121
110.	Affections of the œsophagus	...	...	...	...	...	9
111.	B.—Ulcer of the duodenum	...	...	...	...	...	1
112.	Other Affections of the Stomach :						
	Gastritis	...	1	13	14	...	541
	Dyspepsia, etc.	...	8	8	...	...	4,317
Carried forward		97	1,924	2,021	175	124	51,138

AFRICAN—*continued.*

Diseases.	IN-PATIENTS.					Out-patients.
	Remaining in Hospital at end of 1933.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1934.	
Brought forward ...	97	1,924	2,021	175	124	51,138
<b>VI—DISEASES OF THE DIGESTIVE SYSTEM—<i>continued.</i></b>						
113. Diarrhoea and Enteritis :						
Under two years ...	...	5	5	1	...	228
114. Diarrhoea and Enteritis :						
Two years and over ...	...	42	42	4	1	984
Colitis ...	...	13	13	6	...	61
Ulceration ...	...	...	...	...	...	...
114a. Sprue ...	...	...	...	...	...	...
115. Ankylostomiasis ...	1	55	56	1	1	151
116. Diseases due to Intestinal Parasites ...	...	...	...	...	...	2
(a) Cestoda (taenia) ...	...	1	1	...	...	257
(c) Nematoda (other than ankylostoma) :						
Ascaris ...	2	23	25	1	...	5,517
Trichocephalus dispar ...	...	...	...	...	...	3
Trichina ...	...	...	...	...	...	2
Strongylus ...	...	2	2	...	...	3
Oxyuris ...	...	...	...	...	...	1
(d) Coccidia ...	...	...	...	...	...	...
(e) Other parasites ...	...	...	...	...	...	...
(f) Unclassified ...	...	...	...	...	...	...
117. Appendicitis ...	...	5	5	...	...	11
118. Hernia ...	32	381	413	15	24	533
119. A.—Affections of the anus, fistula, etc. ...	7	19	26	2	1	35
B.—Other affections of the intestines ...	...	8	8	5	...	7
Enteroptosis ...	...	...	...	...	...	...
Constipation ...	...	6	6	...	...	9,729
122. Cirrhosis of the Liver :						
(b) Other forms ...	...	15	15	5	2	12
124. Other affections of the liver ...	1	5	6	...	...	3
Abscess ...	1	6	7	6	...	1
Hepatitis ...	1	23	24	...	3	77
Cholecystitis ...	...	...	...	...	...	2
Jaundice ...	...	3	3	..	1	45
125. Diseases of the pancreas ...	...	1	1	1	...	...
126. Peritonitis (of unknown cause) ...	...	8	8	2	...	3
127. Other affections of the digestive system ...	...	26	26	1	1	783
<b>VII—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL).</b>						
128. Acute nephritis ...	2	10	12	4	...	35
129. Chronic ...	2	19	21	7	1	71
130. B.—Schistosomiasis ...	1	14	15	1	...	74
131. Other affections of the Kidneys :						
Pyelitis, etc. ...	...	8	8	1	...	44
Carried forward ...	147	2,622	2,769	238	159	69,821

Diseases		Remaining in Hospital at end of 1933.	IN-PATIENTS.				Out- patients
			Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1934.	
Brought forward	...	147	2,622	2,769	238	159	69,821
<b>VII—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL)—<i>continued.</i></b>							
132.	Urinary calculus	...	...	1	1	...	2
133.	Diseases of the Bladder:						
	Cystitis	...	...	14	14	4	96
134.	Diseases of the Urethra:						
	(a) Stricture	...	8	39	47	6	122
	(b) Other	...	...	45	45	7	314
135.	Diseases of the Prostate:						
	Hypertrophy	...	...	1	1	1	...
	Prostatitis	...	1	7	8	...	12
136.	Diseases (non-venereal) of the Genital Organs of Man:						
	Epididymitis	...	...	4	4	...	24
	Orchitis	...	1	35	36	...	1
	Hydrocele	...	4	126	130	1	226
	Ulcer of penis	...	1	11	12	...	7
	Other diseases of the male genital organs	...	...	12	12	...	193
137.	Cysts or other non-malignant tumours of the ovaries	...	...	...	...	...	42
138.	Salpingitis	...	...	11	11	1	23
	Abscess of the pelvis	...	...	2	2	...	20
139.	Uterine tumours (non-malignant)	2	30	32	3	...	84
140.	Uterine haemorrhage (non-puerperal)	...	...	2	2	...	45
141.	A.—Metritis	...	...	1	1	...	11
	B.—Other affections of the female genital organs	...	3	21	24	2	317
	Displacements of uterus	...	1	...	1	...	5
	Amenorrhœa	...	...	...	...	...	837
	Dysmenorrhœa	...	...	3	3	...	1
	Leucorrhœa	...	...	1	1	...	227
142.	Diseases of the Breast (non-puerperal):						
	Mastitis	...	1	8	9	...	78
	Abscess of breast	...	1	...	1	...	21
<b>VIII—PUERPERAL STATE.</b>							
143.	A.—Normal labour	...	4	357	361	6	2
	B.—Accidents of pregnancy	...	...	...	...	...	2
	(a) Abortion	...	1	23	24	2	28
	(b) Ectopic gestation	...	...	...	...	...	4
	(c) Other accidents of pregnancy	3	96	99	5	2	103
144.	Puerperal haemorrhage	...	...	4	4	1	1
145.	Other accidents of parturition	...	...	9	9	2	12
146.	Puerperal septicaemia	...	...	7	7	2	3
148.	Puerperal eclampsia	...	...	6	6	5	...
149.	Sequelæ of labour	...	...	1	1	1	2
150.	Puerperal affections of the breast	...	...	...	...	...	1
Carried forward	...	178	3,499	3,677	279	182	72,995

AFRICAN—*continued.*

Diseases.	IN-PATIENTS.					Out-patients.
	Remaining in Hospital at end of 1933.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1934.	
Brought forward ...	178	3,499	3,677	279	182	72,995
<b>IX—AFFECTIONS OF THE SKIN AND CELLULAR TISSUES.</b>						
151. Gangrene ...	...	3	3	1	...	1
152. Boil ...	...	10	10	...	...	304
Carbuncle ...	...	5	5	...	1	98
153. Abscess ...	6	134	140	9	7	386
Whitlow ...	1	17	18	...	1	380
Cellulitis ...	9	73	82	2	5	346
154. A.—Tinea ...	...	1	1	...	...	383
B.—Scabies ...	...	2	2	...	...	957
155. Other diseases of the skin ...	...	13	13	...	...	737
(a) Erythema ...	...	1	1	...	...	4
(b) Urticaria ...	...	2	2	...	...	24
(c) Eczema ...	...	3	3	...	...	321
(d) Herpes ...	...	1	1	...	...	48
(e) Psoriasis ...	...	...	...	...	...	7
(f) Elephantiasis ...	18	123	141	2	10	192
(h) Chigoes ...	1	1	2	...	...	20
(j) Ulcer ...	34	316	350	12	41	6,968
<b>X—DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS).</b>						
156. Diseases of Bones :						
Osteitis ...	...	20	20	...	1	314
157. Diseases of Joints :						
Arthritis ...	5	45	50	1	2	1,428
Synovitis ...	2	37	39	...	2	227
158. Other diseases of bones or organs of locomotion ...	2	42	44	1	3	1,615
<b>XI—MALFORMATIONS.</b>						
159. Malformations :						
Hydrocephalus ...	1	...	1	...	1	2
Spina bifida, etc. ...	...	1	1	...	...	7
<b>XII—DISEASES OF INFANCY.</b>						
160. Congenital debility ...	...	...	...	...	...	1
162. Other affections of infancy ...	...	...	...	...	...	11
163. Infant neglect (infants of three months or over) ...	...	1	1	...	...	...
<b>XIII—AFFECTIONS OF OLD AGE.</b>						
164. Senility ...	...	...	...	...	...	22
Senile dementia ...	...	5	5	...	...	9
Carried forward ...	257	4,355	4,612	307	256	87,807

Diseases.	IN-PATIENTS.					Out-patients.	
	Remaining in Hospital at end of 1933.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1934.		
Brought forward ...	257	4,355	4,612	307	256	87,807	
<b>XIV—AFFECTIONS PRODUCED BY EXTERNAL CAUSES.</b>							
175. Food Poisoning :							
Botulism ... ...	...	1	1	...	...	1	
176. Attacks of Poisonous Animals :							
Snake bite ... ...	...	3	3	...	...	31	
Insect bite ... ...	...	1	1	1	...	48	
177. Other accidental poisonings ... ...	...	2	2	1	...	5	
178. Burns (by fire) ... ..	...	19	19	3	2	145	
179. Burns (other than by fire) ... ...	...	5	5	...	...	104	
181. Poisoning by gas (accidental) ... ...	...	...	...	...	...	5	
182. Drowning (accidental) ... ...	...	...	...	...	...	1	
183. Wounds (by firearms, war excepted) ...	1	12	13	...	4	47	
184. Wounds (by cutting or stabbing instruments) ... ...	2	47	49	2	3	807	
185. Wounds (by fall) ... ...	1	14	15	1	...	459	
186. Wounds (in mines or quarries) ... ...	...	1	1	...	...	2	
187. Wounds (by machinery) ... ...	...	...	...	...	...	7	
188. Wounds (crushing, e.g. railway accidents, etc.) ... ...	...	2	2	1	...	7	
189. Injuries inflicted by animals, bites, kicks, etc. ... ...	6	33	39	1	4	278	
192. B.—Hunger or thirst ... ...	...	3	3	...	...	3	
195. Lightning stroke ... ...	...	...	...	...	...	3	
201. A.—Dislocation ... ...	...	8	8	1	...	42	
B.—Sprain ... ...	...	9	9	...	1	563	
C.—Fracture ... ...	8	95	103	5	12	167	
202. Other external injuries ... ...	4	171	175	2	4	3,547	
<b>XV—ILL-DEFINED DISEASES.</b>							
205. A.—Diseases not already specified or ill-defined :							
Ascites ... ...	2	21	23	4	2	42	
Œdema ... ...	1	4	5	1	1	138	
Asthenia ... ...	10	13	23	4	10	816	
Shock ... ...	...	...	...	...	...	3	
Hyper-pyrexia ... ...	...	...	...	...	...	1	
B.—Malingering ... ...	...	...	...	...	...	2	
Pyrexia of uncertain origin ... ...	1	14	15	...	1	230	
No appreciable diseases ... ...	...	37	37	...	...	396	
Undiagnosed ... ...	1	12	13	...	2	145	
	Total ...	294	4,882	5,176	334	302	95,854

## A—REPORT OF THE SURGICAL SPECIALIST.

The Surgical Clinic at the Connaught Hospital has been carried on under adverse conditions during the year—the necessity for strict economy preventing the clinic from being brought up to date. In spite of this, a larger number of cases have been dealt with than in any previous year.

Two hundred and fifty-two operations for hernia were done, and these continue to be the main operative procedure, while forty-two patients were relieved of elephantoid scrotum without any mortality.

As regards Europeans the year was remarkable for the number of operations for acute appendicitis.

## OPERATIONS AT THE CONNAUGHT AND EUROPEAN HOSPITALS IN 1934.

			Cured.	Relieved.	Un relieved	Died.
(1) <i>Abdominal:</i>						
Herniotomy—inguinal	...	...	238	—	—	1
Herniotomy—femoral	...	...	2	—	—	—
Herniotomy—ventral	...	...	1	—	—	—
Herniotomy—strangulated	...	...	11	—	—	3
Gastric resection	...	...	—	—	—	1
Gastro-enterostomy	...	...	1	—	—	—
Closure of faecal fistula	...	...	1	—	—	1
Enterectomy	...	...	—	—	—	1
Appendicectomy	...	...	9	—	—	—
Jejunostomy	...	...	—	1	—	—
Colostomy	...	...	—	—	—	1
Cæcostomy	...	...	—	—	—	1
Exploratory laparotomy	...	...	—	6	5	4
Aspiration of liver for liver abscess	...	...	2	—	—	1
Aspiration of ascites	...	...	—	6	—	—
Volvulus	...	...	—	—	—	1
Talma—Morrison operation	...	...	—	1	—	—
Splenectomy	...	...	1	—	—	—
(2) <i>Ano-Rectal:</i>						
Excision of fistula in ano	...	...	2	—	—	—
Excision of haemorrhoids	...	...	3	—	—	—
Excision of rectum	...	...	—	—	—	1
Dilation of rectal stricture	...	...	—	16	—	—
Sigmoidoscopy	...	...	—	—	17	—
(3) <i>Ear, Nose and Throat:</i>						
Excision of ranula	...	...	2	—	—	—
Mastoidectomy	...	...	5	—	—	2
Enucleation of tonsils and adenoids	...	...	6	—	—	—
Drainage of frontal sinus	...	...	1	—	—	—
Bronchoscopy	...	...	—	—	2	—
Laryngoscopy	...	...	—	—	7	—
Tracheotomy	...	...	—	—	—	1
Suture of larynx	...	...	1	—	—	—
Cauterisation of larynx	...	...	—	1	—	—
Excision of thyro-glossal fistula	...	...	1	—	—	—
(4) <i>Eyes:</i>						
Extraction of cataract	...	...	2	—	—	—
Excision of eye ball	...	...	1	—	—	—
(5) <i>Genito Urinary:</i>						
Cystoscopy	...	...	—	—	12	—
Urethroscopy	...	...	—	—	1	—
Excision of scrotum for elephantiasis	...	...	42	—	—	—
Excision of hypertrophied scrotum	...	...	20	—	—	—
Radical cure of hydrocele	...	...	111	—	—	1
Suprapubic prostatectomy	...	...	2	—	—	—
Suprapubic cystostomy for drainage of bladder	...	...	4	—	—	—
Tapping of hydrocele	...	...	—	30	—	—
Excision of diverticula of bladder	...	...	1	—	—	—
Dilation of stricture	...	...	—	314	—	—
Transplantation of ureters	...	...	—	—	—	1
Extravasation of urine	...	...	—	4	—	1

			Cured.	Relieved.	Un- relieved.	Died.
Perineal urethrotomy	...	...	...	—	8	—
Amputation of penis	...	...	3	—	—	—
Elephantiasis of penis	...	...	1	—	—	—
Excision of urethral fistulae	...	...	4	—	—	—
Circumcision	...	...	9	—	—	—
Orchidectomy	...	...	2	—	—	—
<b>(6) Gynaecological:</b>						
Examination under anaesthesia	...	...	—	—	4	—
Hysterectomy	...	...	16	—	—	1
Myomectomy	...	...	4	—	—	—
Uterine polypus	...	...	1	—	—	—
Curettage	...	...	13	—	—	—
Induction of labour	...	...	—	—	—	1
Ectopic gestation	...	...	1	—	—	—
Excision of ovarian cyst	...	...	1	—	—	1
Cauterisation of cervix	...	...	2	—	—	—
Colporrhaphy	...	...	2	—	—	—
Excision of elephantiasis of breast	...	...	2	—	—	—
Excision of breast for carcinoma	...	...	1	—	—	—
Repair of vesico-vaginal fistula	...	...	—	1	—	—
<b>(7) Head and Neck:</b>						
Excision of goundou	...	...	2	—	—	—
Excision of cystic tumour jaw	...	...	1	—	—	—
Trephining	...	...	—	—	—	1
Thyroidectomy for goitre	...	...	3	—	—	1
Ligation of innominate artery	...	...	—	—	—	1
<b>(8) Miscellaneous:</b>						
Drainage of septic conditions	...	...	325	—	—	1
Excision of glands	...	...	5	—	—	1
Excision of epitheliomata	...	...	—	2	—	—
Excision of melanoma	...	...	—	1	—	—
Suture of wounds	...	...	401	—	—	—
Aspiration of pleura	...	...	6	—	—	—
Drainage of empyema	...	...	4	—	—	—
Extraction of teeth	...	...	223	—	—	—
Excision of cysts	...	...	14	—	—	—
Excision of neuroma	...	...	1	—	—	—
Removal of foreign bodies	...	...	39	—	—	—
<b>(9) Orthopaedics:</b>						
Reduction of fractures and separated epiphyses	...	...	47	—	—	—
Open operation for fracture	...	...	1	—	—	1
Reduction of dislocations	...	...	16	—	—	—
Open operation for dislocation	...	...	1	—	—	—
Extension of fractures by means of pins	...	...	10	—	—	—
Drainage and sequestrectomy for osteomyelitis	...	...	9	—	—	—
Excision of myeloma humerus	...	...	1	—	—	—
Bone graft	...	...	1	—	—	—
Aspiration of joints	...	...	—	6	—	—
Breaking down of adhesions in joints	...	...	—	8	—	—
Excision of semilunar cartilage	...	...	1	—	—	—
Tendon lengthening	...	...	—	2	—	—
Tendon transplantation	...	...	3	—	—	—
Astragalectomy	...	...	—	1	—	—
Amputation of leg	...	...	1	—	—	—
Amputation of foot	...	...	1	—	—	—
Amputation of toe	...	...	14	—	—	—
Amputation of finger	...	...	10	—	—	—
Plaster cases	...	...	—	38	—	—
<b>(10) Skin and Subcutaneous Tissues:</b>						
Excision of ulcers	...	...	1	—	—	—
Excision of elephantiasis leg	...	...	—	5	—	—
Skin grafting Tiersch	...	...	19	—	—	—
Plastic operation	...	...	8	—	—	—
Excision of non-malignant tumours	...	...	28	—	—	—
Total ...		...	1,728	451	48	31

NOTE:—(a) Dilatations of stricture of the urethra and rectum are placed under the heading "Relieved" in all cases.

(b) Diagnostic procedures such as cystoscopy and sigmoidoscopy are placed under the heading "Unrelieved".

## OPERATIONS PERFORMED ON EUROPEANS.

Appendectomy	...	...	...	7	—	—	—
Suture of tendons and nerves	...	...	...	1	—	—	—
Excision of cyst	...	...	...	2	—	—	—
Reduction of fracture	...	...	...	1	—	—	—
Extraction of teeth	...	...	...	4	—	—	—
Extraction of foreign bodies	...	...	...	1	—	—	—
Drainage of septic conditions	...	...	...	6	—	—	—
Drainage of empyema	...	...	...	1	—	—	—

Total	...	...	23	—	—	—	—
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Percentage of deaths	...	...	...	...	...	...	1.3
Number of operations in 1926	...	...	...	...	...	...	29
"    "    "    "    1927	...	...	...	...	...	...	257
"    "    "    "    1928	...	...	...	...	...	...	755
"    "    "    "    1929	...	...	...	...	...	...	761
"    "    "    "    1930	...	...	...	...	...	...	1,566
"    "    "    "    1931	...	...	...	...	...	...	1,410
"    "    "    "    1932	...	...	...	...	...	...	1,913
"    "    "    "    1933	...	...	...	...	...	...	1,877
"    "    "    "    1934	...	...	...	...	...	...	2,281

## ANÆSTHETICS.

Spinal	...	...	...	...	...	...	508
Ethyl chloride	...	...	...	...	...	...	265
Chloroform	...	...	...	...	...	...	225
Local	...	...	...	...	...	...	151
Rectal	...	...	...	...	...	...	5

Total	...	...	...	...	...	...	1,154
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## RUPTURED SCAR OF PREVIOUS CÆSAREAN SECTION.

I did a classical Cæsarean section for contracted pelvis on a woman of nineteen on September 20th, 1930. Two rows of stitches were employed to close the uterus, one interrupted of No. 3 chromic catgut and the other a continuous Lembert of No. 1 ordinary catgut. Mother and child did well, and the abdominal wound healed by first intention.

I was called to see her in the Maternity Ward on March 14th, 1933—she was eight months pregnant and was obviously suffering from an abdominal catastrophe. Ruptured uterus was diagnosed and the abdomen opened under spinal stovaine. A dead child and membranes were lying free in the abdominal cavity which was full of blood—a large tear was present in the uterus.

The abdomen having been sponged out, a subtotal hysterectomy was done.

For a week she ran a swinging temperature. Sodium nucleinate was given and the fever subsided, afterwards recovery proceeded smoothly.

The question of what ligatures to use in closing the uterus after a Cæsarean section does not appear to have been definitely settled. Some authorities insist on unabsorbable sutures such as silkworm gut, others rely on catgut.

## CALCULOUS PYONEPHROSIS.

Stone in the urinary tract is in my experience very rare in West Africa. Of the only two cases I have had occasion to operate on in Siera Leone one occurred in a West Indian, the other in a Syrian, so that the local people would appear to be unaffected.

The first case, a West Indian telegraph operator, age 40, was sent to me with abdominal pain and persistent bad health which had lasted for some two years. He had many symptoms such as pain in the right side of the abdomen, pain in the right shoulder, fever, vomiting, loss of appetite and loss of weight. These symptoms had begun after a perineal abscess two years ago and had been coming off and on ever since but getting worse lately. His pain had been of the nature of a colic followed by a feeling of heaviness.

On examination an indefinite tender swelling could be palpated in the right lumbar region, it appeared to correspond to an enlarged kidney, it was tender and the muscles were rigid over it. There was a large amount of pus in the urine. Cystoscopy showed a congested bladder and ribbons of thick pus coming out of the right ureter like toothpaste out of a tube. On the intravenous injection of indigo carmine it appeared from the left ureter at 4 minutes and was strongly excreted at 6 minutes while none was evident on the right side.

Although the patient's general condition was far from good and he was not responding well to treatment it was decided that immediate operation would give him his only chance.

Nephrectomy was therefore performed. The lumbar route was used and the kidney was found to be much enlarged and bound by dense adhesions; the ureter too was considerably thickened and fixed. Great difficulty was experienced and the kidney burst during the removal and flooded the wound with pus. Haemorrhage was also very troublesome.

The kidney was found to have distended calyces with little kidney tissue remaining and the cavity was almost full of branched oxalate stones lying in pus.

Immediately after the operation was concluded the patient's condition became bad and in spite of remedial measures he succumbed to the prolonged procedure.

The second case was that of a Syrian male aged 47. He came complaining of pain and swelling in the left side of the abdomen with frequency of micturition.

The pain had commenced several years ago and was intermittent in character—a dull ache in the loin; lately he had been able to feel a swelling in the same area.

He said that he had been X-rayed in Beirut a year previously, and that he had been told that a stone was present.

On admission to hospital the patient was thin and anaemic-looking. A large fixed swelling could be palpated bimanually in the left lumbar region—it was tender. The temperature varied between 98 and 100 degrees F.

Examination of the urine revealed pus in fair amount. Cystoscopy showed a slight amount of chronic cystitis and thick yellow pus slowly exuding from the left ureter. Indigo carmine injected intravenously appeared in 5 minutes from the right ureter and came

strongly at 6 minutes, it was never observed at the left ureteric orifice.

The right kidney having been demonstrated to be acting efficiently operation was decided on.

Under spinal stovaine nephrectomy was done by the lumbar route. Pus was encountered in the muscles posterior to the kidney and surrounding the kidney itself. Removal was exceedingly difficult as the kidney was buried in a dense mass of fibrous tissue and was really just a fibrous bag of pus containing several branched calculi.

The bed was packed and a large tube left in. The wound continued to discharge for some time but ultimately soundly healed. I saw the patient one year later and he was very fit.

Q. STEWART,  
*Surgical Specialist.*

#### B—MATERNITY WARD.

The maternity work of the Connaught Hospital is all done in one ward of twelve beds with a labour ward of two beds. Lack of accommodation this year made it necessary to erect a further two beds in the ward, but still the work was cramped and cases had to be sent out early to make room for more urgent ones; there was also no possibility of separating septic cases from the others and ante-natal cases often had to be refused through insufficiency of beds. There is great need for a larger establishment.

Dr. E. J. Wright was in charge of the work during the year and whilst he was away on leave from May to October Dr. E. Taylor-Cunimings took over the work of the ward and the clinics. The work of the latter will be described separately.

The total number of admissions was 501, of which number 331 gave birth in the ward. There were 214 multiparae and 117 primiparae. Of the 331 women who gave birth, 207 had normal, and 124 abnormal, labours. For the purpose of this report a normal labour is considered one in which the pelvis is of normal size, the pregnancy is single, the child living and delivered without aid, vertex presents with the back in front, membranes do not rupture prematurely, there is no bleeding before or excessive bleeding during labour and the mother is apparently healthy and suffers no injury during the birth.

The 124 labours that did not fall within this category were:—

18 twin labours, 46 torn perinæums requiring suture, and 60 various abnormalities to be detailed presently.

There were 12 maternal deaths—10 amongst the parturient women and 2 amongst the others. These cases will be mentioned individually and are as follows:—

*Ten died delivered:*

- U. Multi. iv: admitted direct from the Protectorate on 15th March, 1934, and arrived with a putrifying head already born. Died 17th March from sapraæmia.
- Ye. Multi. ii: Admitted unconscious with eclampsia, numerous fits before admission. Came from Protectorate on 27th March and was brought to hospital on 28th. Died 1st April.
- Yu. Primipara at full term sent on 4th April from Cline Town with impacted head. Died three hours after perforation and forceps extraction.
- S.C. Multi: Admitted 25th May with dystocia due to flat pelvis after four days in labour at home: Craniotomy and forceps extraction with collapse one hour after delivery.
- B. Primipara: Admitted 27th June with lobar pneumonia; premature delivery; death seven days later.
- D.D. Admitted 19th October. Cord prolapsed and hand presenting; internal version; death from septicæmia eight days later. There had been much outside interference.
- K. Primipara: Admitted direct from the Protectorate with dystocia of many days standing. Decomposing head in vagina; black foetid urine in bladder. Moribund and died 45 minutes after admission.
- M.S. Multipara: Admitted 26th June with placenta prævia; eight months pregnant; internal version; much valuable time lost through obstinacy of patient. Death same day from haemorrhage.
- B. Multipara: Admitted 11th May; flat pelvis, large child  $9\frac{1}{2}$  lb.; craniotomy; puerperal sepsis. Death eight days later.
- T.P. Primipara: Admitted with A.P. Eclampsia; delivered dead-born foetus and died comatose three days later.

*Two died undelivered:*

- I.J. Primipara: Admitted 15th October. Died same day undelivered. Ante-partum eclampsia at full term.
- M.M. Primipara. Admitted 26th March. Died 28th March. Eclampsia. Refused admission to hospital when found to be suffering from albuminuria; came later when labour imminent; developed eclampsia 28th March and died same day undelivered.

The notes on these cases are sufficiently explanatory of the cause of maternal death in each case, but it should be noted that at least seven of these cases were sent for admission in a hopeless condition, another dying of septicæmia had undoubtedly been interfered with before admission and another refused a timely warning which might have saved her dying from eclampsia; thus it appears that 9 out of the 12 patients dying were in a condition unfavourable to their recovery before admission.

The next group of interest is the twins—there were 18 pairs out of 331 cases, giving a percentage of 5.4. This is high compared with European countries, but is about the average for our maternity work which, over a period of many years, has shown about 6 per cent. twins. This high twin rate is important when the high dead birth and mortality rate among these twins is considered.

The following table gives sex, presentation, weight and fate of the twins:—

TABLE I.

Sex.		Presentation.	Weight.	Fate.
Male	...	Breech	3 lb. 12 oz.	Died 3 days old
Male	...	Breech	5 „ 4 „	Alive
Female	...	Vertex	6 „ 8 „	Alive
Female	...	Vertex	5 „	Alive
Female	...	Breech	3 „	Died 2 hours old
Female	...	Vertex	4 „ 8 „	Died 10 hours old
Male	...	Breech	4 „ 8 „	Achondroplasia
Male	...	Vertex	5 „ 4 „	Died (still-born)
Male	...	Vertex	4 „ 4 „	Alive
Female	...	Vertex	5 „	Alive
Male	...	Vertex	6 „ 8 „	Alive
Male	...	Vertex	6 „	Alive
Female	...	Vertex	5 „ 8 „	Dead-born
Female	...	Vertex	5 „ 8 „	Dead-born
Female	...	Vertex	5 „ 8 „	Alive
Male	...	Vertex	5 „	Alive
Female	...	Vertex	4 „	Died 2 days old
Female	...	Vertex	3 „ 8 „	Died 4 days old
Male	...	Vertex	4 „	Alive
Male	...	Vertex	3 „ 8 „	Alive
Male	...	Vertex	7 „ 8 „	Alive
Female	...	Breech	6 „	Alive
Female	...	Vertex	7 „	Alive
Male	...	transverse	7 „	Alive
Female	...	Vertex	4 „ 8 „	Died 19 hours old
Male	...	Footling	?	Dead-born
Male	...	Breech	7 „	Still-born
Male	...	Vertex	7 „ 8 „	Died 2 days old
Female	...	Breech		Dead-born
Male	...	prolapse	?	
Male	...	Breech		
		funis	5 „	Alive
Female	...	Footling	5 „	Still-born
Male	...	Vertex	5 „	Alive
Male	...	Breech	5 „	Alive
Male	...	Breech	5 „ 8 „	Alive
Male	...			
Female	...	Miscarriage		

From the above table it can be seen that (omitting the non-viable twins of case 16) 15 children were lost (4 dead-born, 3 still-born, 8 died before mothers discharged from hospital) out of 34 children, i.e. 44 per cent. of the total were lost or 29 per cent. of the children born alive died before the mothers left hospital.

Among the remaining single births which numbered 313, there were 44 children lost, i.e. 23 dead-born, 4 still-born and 17 died before the mothers discharged from hospital, which is 14.5 per cent. of the total were lost or 6 per cent. of children born alive died before the mothers left hospital.

For the purpose of this report a dead birth is considered one in which the foetus shows evidence that death could not have recently taken place, e.g. maceration and skin peeling, discolouration of cord, or commencing decomposition. A still-born child is considered one which might have been lost in the birth, shows no evidence of life but is not resuscitated.

The next table II gives the predominant feature of the 60 cases with varying abnormalities.

TABLE II.

In this table the cases have been classified according to the most salient feature of the case and no case has been counted twice:—

Case.	No.	Remarks.
Premature birth	8	
Dead-birth	7	
Breech	6	
Instrumental	6	
Occipito posterior	4	
Placenta praevia	4	Two-internal podalic version
Craniotomy	4	
Eclampsia	4	Two foreeps
Still-birth	3	
Prolapsed cord	2	
Pneumonia	2	
Premature rupture membranes	1	
Face presentation	1	
Flat pelvis	1	
Concealed accidental haemorrhage	1	
Ante-partum haemorrhage	1	
Post-partum haemorrhage	1	
V. D. H.	1	
Shoulder presentation	1	Internal version
Retained secundines	1	Dilatation commenced by digital pressure on external os.
Conglutination of the external os.	1	

There were 170 patients admitted in addition to the 331 women who gave birth in the ward. Among this number were 18 who had given birth before admission and were as follows: 14 baby born before arrival, 3 admitted on account of retained placenta and 1 with eclampsia and puerperal septicæmia.

This leaves 152 ante-natal cases which are classified according to their predominant feature in the following Table III:—

TABLE III.

False pains	...	...	...	...	...	32
Observation	...	...	...	...	...	32
M. T. malaria	...	...	...	...	...	17
Albuminuria	...	...	...	...	...	13
Avitaminosis severe	...	...	...	...	...	10
Clinical malaria	...	...	...	...	...	7
Miscarriage	...	...	...	...	...	5
Abortion	...	...	...	...	...	4
Edema feet	...	...	...	...	...	3
Quartan malaria	...	...	...	...	...	3
Hyperemesis	...	...	...	...	...	2
Adenitis groin	...	...	...	...	...	2
Eclampsia	...	...	...	...	...	2
Threatened abortion	...	...	...	...	...	2
Valvular heart disease	...	...	...	...	...	2
Twin abortion	...	...	...	...	...	1
Local injury	...	...	...	...	...	2
Abscess breast	...	...	...	...	...	1
Vaginal septum	...	...	...	...	...	1
Anæmia	...	...	...	...	...	1
Pleurodynia	...	...	...	...	...	1
Bronchitis	...	...	...	...	...	1
M. T. and quartan malaria	...	...	...	...	...	1
Pyrexia	...	...	...	...	...	1
Ascaris	...	...	...	...	...	1
Diarrhoea	...	...	...	...	...	1
Tæniasis	...	...	...	...	...	1
Splenomegaly	...	...	...	...	...	1
Ankylostomiasis	...	...	...	...	...	1

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There were no deaths among these ante-natal patients.

E. J. WRIGHT,  
Medical Officer-in-charge, Maternity Ward.

## C—ANTE-NATAL CLINIC.

Patients from the adjacent villages as well as the city attended this clinic which was held throughout the year on Tuesdays.

There were 622 new individuals on the register, this number showing an increase of 55 on the previous year attendances. The increase in number was reflected on the work of the Maternity Ward where, as compared with last year, an even larger proportional increase in the number of births was registered.

The routine work of urine examination, pelvic measurement with especial regard to the internal examination of all primiparae and women with doubtful obstetric histories was done. Sick women were treated and when possible sent to the hospital for admission. Lack of accommodation made it necessary to treat a number of women as out-patients who really needed institutional treatment. Avitaminosis—evidenced by glazed tongue and an altered condition at the angles of the mouth sometimes with conjunctivitis or visual disturbance—was prevalent and treated by the administration of Cod Liver Oil and advice as to diet. As deficient Vitamin B intake is undoubtedly a factor in this syndrome—a fact frequently lost sight of—a determined effort was made to get patients to supplement their diet with fresh Palm Wine to allow of an increase in the Vitamin B intake, to balance and work synergically with the Vitamin A prescribed in the form of Oil. Morrhuae and Vit. concentrates. There appears to be prejudice against the taking of palm wine, probably on account of the fermented liquor being used as an intoxicating beverage by the native classes; however, when it is explained that they are to take the "sweet," i.e. unfermented palm sap, there is some sort of compliance according to the patients' ability to obtain it, a question of finance or availability of the produce.

Besides treating the cases manifesting the early signs of avitaminosis disease, which if allowed to progress and in incapacitation with paralysis, a good deal of prophylaxis is done and this takes the same form as the treatment, i.e. supplying essentials and advising diet.

The following table gives the attendances at the clinic month by month:—

*Ante-Natal Clinic—Record of Attendances—January to December, 1934.*

Month		New Cases.	Repeated Visits.	Total.
January	...	80	447	527
February	...	42	381	423
March	...	42	186	228
April	...	25	168	193
May	...	57	282	339
June	...	40	288	328
July	...	63	449	512
August	...	54	270	324
September	...	56	419	475
October	...	59	500	559
November	...	59	358	417
December	...	45	314	359
<b>Total</b>	<b>...</b>	<b>622</b>	<b>4,062</b>	<b>4,684</b>

E. J. WRIGHT,  
*Medical Officer-in-charge, Maternity Centre.*

## D—POST-NATAL CLINIC.

This clinic was inaugurated on July 1st, 1933, and has now completed a full year's work. The object of this clinic is to watch and treat patients delivered in the Maternity Ward and at the same time to receive other cases recently delivered.

The practice of giving patients a discharge ticket with essential details entered thereon, and instructing them to report at the clinic on the first Thursday after their discharge was continued, and the district nurses encouraged other recently delivered women to attend. It has been usual to keep these women and their children under observation for four weeks, at the end of which period, if they are considered fit, they are instructed to attend one of the Infant Welfare Clinics with their babies. As was anticipated at the inception of this work the numbers have remained fairly steady on account of the routine of discharging the women from the clinic after four weeks observation.

The following table gives the number of individuals and subsequent attendances month by month throughout the year:—

*Post-Natal Clinic—Record of Attendances—January to December, 1934.*

Month.		New Cases.	Repeated Visits.	Total.
January	...	15	35	50
February	...	19	21	40
March	...	22	25	47
April	...	23	34	57
May	...	34	51	85
June	...	19	49	68
July	...	10	18	28
August	...	20	19	39
September	...	10	14	24
October	...	24	29	53
November	...	12	32	44
December	...	25	32	57
<b>Total</b>	<b>...</b>	<b>233</b>	<b>359</b>	<b>592</b>

E. J. WRIGHT,

*Medical Officer-in-charge, Maternity Centre.*

**E—INFANT WELFARE.**

For the first half of the year this work was carried on as in previous years at 99, Campbell Street and the Connaught Hospital—the former the centre for the West Ward, and the latter for the convenience of patients living in the Central Ward of the town. The lease of 99, Campbell Street expired so it was decided to leave this building and centralize the work in a house in Oxford Street which belonged to Government and is situated in the hospital grounds. Consequently, from July last all the infant, ante-natal and post-natal work done, in conjunction with the Connaught Hospital was centralized in this building and the various clinics were held there. The staff has consisted of one Senior Health Visitor and one Health Visitor, with one other working in the East End of the town under the supervision of the Princess Christian Mission Hospital. The work of this portion of the town is not included in this report.

The work has been done on the same lines as in previous years—the Health Visitors obtaining lists at frequent intervals of the registered newly-born, visiting them and at the same time paying attention to any other children under three years of age met on their rounds. The following table is a record of the work done by them during the year:—

*Health Visitors—Record of Attendances—January to December, 1934.*

Month.		Newly-born.	New Cases.	Repeated Visits.
January	...	24	7	141
February	...	70	26	375
March	...	64	17	434
April	...	64	14	467
May	...	62	23	544
June	...	63	9	547
July	...	57	21	420
August	...	66	14	398
September	...	58	22	405
October	...	55	23	455
November	...	58	35	390
December	...	68	18	432
<b>Total</b>		<b>709</b>	<b>229</b>	<b>5,008</b>

During the year 737 individuals attended the clinics and the following table gives the numbers for the last four years, showing at what age the children were first brought to the clinics:—

TABLE 1.  
*Ages at which Children were brought to the Infant Welfare Clinic.*

Age.	1934.	1933.	1932.	1931.
Under 1 week	37	60	27	1
,, 2 weeks	96	109	100	30
1 month	142	156	159	128
1—3 months	175	161	167	158
3—6 ,,	97	58	94	125
6—12 ,,	82	94	113	105
1—2 years	64	80	116	107
2—3 ,,	44	46	30	68
Total ..	737	764	806	722

It appears from this that, with the present method of working, we can expect to see on an average a maximum of about 750 individual children in a year.

There seems to have been a steady falling off in the number of children brought between the ages of one and three years. The real import of this is not yet apparent but it is significant that the mortality amongst these children is negligible as compared with the younger groups which fortunately attend in good numbers.

As regards the number of children brought to the clinic whilst under 1 week old, it is to be noted that the number has fallen from 60 last year to 37 this year. This no doubt is the result of the efforts of the health visitors who have advised the mothers against leaving their homes with their children so early in the puerperium. It is unfortunate that births are so often registered late because, as a result, a large number of children under two weeks, children amongst whom the mortality is greatest, are not seen in time to be assisted as their whereabouts are unknown.

The next tables—II, III and IV—show the number of old cases and new cases attending each centre month by month. For the period January to June the Central and West End centres are given separately. From July 1st the West End Centre was closed; consequently for this period there is only one table. It will be seen that the attendance at the combined centre is quite satisfactory.

There were 1,339 births registered in Freetown with 312 infantile deaths, which gives an infant mortality rate of 233. The figures for the past five years are given for easy comparison.

Year.	Births Registered.	Deaths under Twelve Months.	Infantile Mortality Rate.
1930	1,102	371	339
1931	1,263	365	288
1932	1,276	348	272
1933	1,378	317	230
1934	1,339	312	233

The figures for the year under review show progress when the unprosperous condition of the people is taken into account.

## Infant Welfare Clinic—Record of Attendances—January to December, 1934.

TABLE II.

TABLE III.

CONNAUGHT HOSPITAL.				CAMPBELL STREET.			
Month.	New Cases.	Repeated Visits.	Total.	Month.	New Cases.	Repeated Visits.	Total.
January ...	25	339	364	January ...	38	645	683
February ...	30	450	480	February ...	32	730	762
March ...	11	226	237	March ...	25	456	481
April ...	19	172	191	April ...	31	337	368
May ...	26	269	295	May ...	30	403	433
June ...	23	384	407	June ...	20	357	377
<b>Total ...</b>	<b>134</b>	<b>1,840</b>	<b>1,974</b>	<b>Total ...</b>	<b>176</b>	<b>2,928</b>	<b>3,104</b>

TABLE IV.

MONTH.	New Cases.	Repeated Visits.	Total.
July ...	84	813	897
August ...	91	846	937
September ...	71	831	902
October ...	64	924	988
November ...	72	1,014	1,086
December ...	45	748	793
<b>Total ...</b>	<b>427</b>	<b>5,176</b>	<b>5,603</b>
<b>GRAND TOTAL ...</b>	<b>737</b>	<b>9,944</b>	<b>10,681</b>

E. J. WRIGHT,  
*Medical Officer-in-charge, Infant Welfare Clinics.*

## F—EYE CLINIC.

This clinic may be said to have filled a want. Since its inception in the middle of March this year to the end of the year, the number of new cases seen is 390, and the subsequent attendances 916. The largest number of new cases seen in one month was 63, and the highest number of subsequent attendances in a month, 192. At times over 40 cases are treated in an afternoon's session, of which there are two a week.

## ANALYSIS OF CASES.

(a) *Affections of Lids:*

Blepharitis	...	...	...	...	...	2
Hordeolum	...	...	...	...	...	1
Tarsal concretion	...	...	...	...	...	1
Inflammation of meibomian gland	...	...	...	...	...	1
Chalazion	...	...	...	...	...	7

(b) *Affections of Conjunctiva:*

Conjunctivitis	...	...	...	...	...	59
Phlyctenular conjunctivitis	...	...	...	...	...	1
Trachoma	...	...	...	...	...	15
Conjunctival cyst	...	...	...	...	...	1
Sub-conjunctival haemorrhage	...	...	...	...	...	1

(c) *Affection of sclera:*

Episcleritis	...	...	...	...	...	2
Scleritis	...	...	...	...	...	1

(d) <i>Affections of Cornea:</i>							
Corneal ulcer	...	...	...	...	...	...	11
Phlyctenular keratitis	...	...	...	...	...	...	3
Corneal nebulae	...	...	...	...	...	...	2
Keratitis profunda	...	...	...	...	...	...	1
Interstitial keratitis	...	...	...	...	...	...	1
Foreign body cornea	...	...	...	...	...	...	1
(e) <i>Affections of Iris and Ciliary Body:</i>							
Irido-cyclitis	...	...	...	...	...	...	19
Cyclitis	...	...	...	...	...	...	6
Uveitis (general)	...	...	...	...	...	...	1
(f) <i>Affections of Lens:</i>							
Senile cataract	...	...	...	...	...	...	21
Concussion cataract	...	...	...	...	...	...	4
Secondary cataract	...	...	...	...	...	...	2
Lamellar cataract	...	...	...	...	...	...	1
(g) <i>Affections of Retina and Choroid:</i>							
Retinal haemorrhage	...	...	...	...	...	...	1
Retinitis (albuminuric)	...	...	...	...	...	...	1
Choroido-retinitis	...	...	...	...	...	...	2
Choroiditis	...	...	...	...	...	...	6
Ruptured choroid	...	...	...	...	...	...	1
(h) <i>Affections of Optic Nerve:</i>							
Optic atrophy	...	...	...	...	...	...	14
Retro-bulbar neuritis	...	...	...	...	...	...	1
(i) <i>Affections of Lachrymal Apparatus:</i>							
Dacryocystitis	...	...	...	...	...	...	1
(j) <i>Errors of Refraction:</i>							
Hypermetropia	...	...	...	...	...	...	13
Hypermetropic Astigmatism	...	...	...	...	...	...	9
Compound hypermetropic astigmatism	...	...	...	...	...	...	12
Myopia	...	...	...	...	...	...	12
Myopic astigmatism	...	...	...	...	...	...	10
Compound myopic astigmatism	...	...	...	...	...	...	15
Mixed astigmatism	...	...	...	...	...	...	10
Irregular astigmatism	...	...	...	...	...	...	1
Anisometropia	...	...	...	...	...	...	5
(k) <i>Errors of Accommodation:</i>							
Presbyopia	...	...	...	...	...	...	13
Asthenopia of accommodation	...	...	...	...	...	...	1
Spasm of accommodation	...	...	...	...	...	...	2
Paralysis of accommodation	...	...	...	...	...	...	1
(l) <i>Muscular and Neuro-muscular Affections:</i>							
Internal ophthalmoplegia	...	...	...	...	...	...	2
VIIth Nerve palsy	...	...	...	...	...	...	1
Convergent strabismus	...	...	...	...	...	...	1
(m) <i>Other Affections:</i>							
Contusion of eyeball	...	...	...	...	...	...	3
Phthisis bulbi	...	...	...	...	...	...	3
Old enucleation	...	...	...	...	...	...	1
Penetrating wound of eyeball	...	...	...	...	...	...	1
Amblyopia	...	...	...	...	...	...	23
Hysteria	...	...	...	...	...	...	1
Tumour (sarcoma of eyeball)	...	...	...	...	...	...	1
Chronic glaucoma	...	...	...	...	...	...	4
(n) <i>Nothing abnormal found:</i>							
Nothing abnormal found	...	...	...	...	...	...	35
(o) <i>Undiagnosed:</i>							
Undiagnosed (did not return for completion of examination)	...	...	...	...	...	...	18
					Total		390

## COMMENTS.

*Conjunctivitis.*—B. Koch-weeks, B. Morax-Axenfeld and N. gonorrhœa were known causes, and a few were associated with avitaminosis (9). One follicular conjunctivitis.

*Amblyopia.*—A large proportion of these were associated with definite signs of avitaminosis (12), and others were probably due to the same cause. One was definitely due to tobacco. A proportion had positive kahns, but it was impossible to exclude antecedent yaws.

*Optic Atrophy.*—Two were associated with definite signs of avitaminosis. One occurred in a painter, and a few had positive kahns, but here again one could not exclude yaws.

*Restrobulbar Neuritis.*—Kahn positive. Cleared up under anti-syphilitic treatment, but normal vision not yet recovered.

*Paralysis of Accommodation.*—Mydriasis also present. Kahn positive. Clearing up under anti-syphilitic measures, but still under treatment.

In October an operating theatre was inaugurated in conjunction with the clinic. This has not yet attained to its full use, as a number of cases down for operation are unfit to undergo surgical treatment. It is hoped that it will prove its value in the coming year.

Up to the end of 1934 the following operations were performed:—

Operations.	Condition for which Performed.
Curettage ... ...	3 Chalazion
Enucleation ... ...	1 Chronic traumatic iritis
Removal of foreign body	1 —
Scleral puncture ...	2 Secondary glaucoma
Exenteration of orbit ...	1 Sarcoma
Sclero-corneal trephining	1 Chronic glaucoma.

E. S. WALLS,  
*Senior Medical Officer.*

## G—VENEREAL DISEASES CLINIC.

There were 555 new cases treated during the year; this figure compares very favourably with that of the first fifteen months of the clinic's existence when only 327 cases were treated; a great proportion of these were non-venereal, for example yaws was for convenience treated at this clinic.

The subsequent attendances numbered 10,305 compared with 1,240 in 1931, this increase being due to patients attending several days a week for irrigation. The majority of patients seeking relief were suffering from gonorrhœa and its complications; daily irrigation was advised, and although the regular days for attending the clinic were three, the Medical Officer gave advice and treatment daily to these sufferers. Like all venereal diseases clinics, patients could hardly be convinced in every instance to attend until they were pronounced cured, the only exception being Government officials, this latter class of patients nearly always reported early, and not after they had resorted to quack and proprietary medicines.

During the year the Medical Officer-in-charge of the general out-patients department was also in charge of the Venereal Diseases Clinic.

The female sessions have been changed from Monday to Thursday.

The attendance of women has been poor.

## VENEREAL DISEASES RETURN.

Disease.	NEW CASES.			SUBSEQUENT CASES.		
	Government.	Non-Government.	Female.	Government.	Non-Government.	Total.
Gonorrhœa ...	41	326	21	616	6,650	7,266
Hard chancre ...	2	10	...	40	279	319
Ulcer penis ...	4	71	...	56	975	1,031
Orchitis ...	5	15	...	102	243	345
Bubo ...	1	15	...	22	279	301
Balanitis ...	...	2	...	...	30	30
Vaginitis ...	...	...	8	...	226	226
Stricture ...	...	13	...	...	40	40
G. C. Rheumatism ...	...	32	1	...	416	416
Z ii iii ...	1	12	2	32	152	184
G. C. Epidymitis ...	...	3	...	...	38	38
Fistula ...	...	1	...	...	4	4
Leucorrhœa ...	...	...	1	...	1	1
Vaginal ulceration ...	...	...	3	...	61	61
Warts ...	...	...	1	...	1	1
Tabes ...	...	1	...	...	6	6
Œdema Vulva ...	...	...	1	...	36	36
Total ...	54	501	38	868	9,437	10,305

E. TAYLOR CUMMINGS,  
Medical Officer-in-charge, Venereal Diseases Clinic.

28th January, 1935.

## II—FREETOWN METEOROLOGICAL OBSERVATIONS—(TOWER HILL OBSERVATORY).

Month.	Mean Pressure.	9 a.m.	AIR TEMPERATURE.			Relative Humidity, 9 a.m.	Total.	Maximum.	Date.	Number of Days Rain.					
			Means of Absolute.												
			Minimum.	Maximum.	Minimum.										
Latitude 8° 27' N Longitude 13° 9' W Height above M.S.L. Barometer Cistern 224 feet Site of Rain Gauge 115 feet															
January	29.896	77.8	76.8	77.5	86.2	62	92	78.2	—	1					
February	29.920	78.9	77.3	67.9	86.8	65	91	80.6	0.07	2					
March	29.875	78.1	77.3	67.9	86.8	64	90	80.1	0.05	6					
April	29.906	80.6	77.9	68.5	87.4	64	91	83.2	0.87	21st					
May	29.901	82.1	79.0	69.8	88.3	63	91	87.0	2.64	21st					
June	29.918	79.3	84.5	72.3	86.7	64	89	90.1	17.95	2nd	26				
July	29.936	77.4	78.3	72.8	83.8	68	88	91.2	13.35	5th	27				
August	29.951	76.7	77.2	72.3	82.2	64	87	91.2	47.63	11th	25				
September	29.947	77.6	78.8	72.9	84.8	69	89	91.8	6.13	4th	27				
October	29.960	78.0	78.7	72.4	85.0	70	90	88.5	12.67	12th	27				
November	29.940	80.0	80.3	74.3	86.4	71	89	86.2	4.35	1st	15				
December	29.951	79.7	74.2	85.5	74.2	71	89	81.8	0.27	12th	2				
YEAR	29.925	78.8	78.8	71.1	85.8	66.2	89.7	85.8	172.96	5th July	161				





